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Arboricultural Survey
Impact Assessment & Method Statement
Report (BS5837:2012)

Site

Kneller Hall
Twickenham
TW2 7DU

Client

Radnor House School Limited

Date of Report:

September 2022

Report Reference:

AIA/MF/005/22

Report Prepared by:

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1.0 Instructions

1.1 This report has been commissioned by Emma Penson - DWD, on behalf of Radnor House School Limited to survey, assess and provide an Arboricultural Impact Assessment and Method Statement for the trees sited within close proximity of proposed development works at Kneller Hall, Twickenham, TW2 7DU.

2.0 Introduction

2.1 Site visits to undertake the survey were undertaken as follows:

20th & 21st December 2021
and
5th August 2022*

* Undertaken to re-assess in relation to Storm Eunice (February 2022) storm damage and current drought conditions and update survey schedule accordingly

The weather at the time of inspection was cold and bright (December 2021) bright / warm (August 2022).

2.2 The tree survey, report and recommendations have been compiled for the 270 no. trees, 5 no. groups and 1 no. hedge (T1-T279 which excludes T23, T65 & T194 which have been removed since original survey, December 2021) surveyed within the site and neighbouring sites where relevant.

2.3 The details of the subject trees are set out in the tree survey table in *Appendix A*. The trees were surveyed on the date and time shown above and the tree survey assessment information for the tree describing size, condition and surroundings are found within this appendix.

2.4 The trees located within the site are shown in site plans T001-T003, Appendix B, and these correspond to the tree survey results table, Appendix A. Photographs of the trees can also be found in Appendix C.

2.5 This report and the opinions within it have been produced by Marcus Foster, a qualified arboriculturist and Professional Member of the Arboricultural Association with over 20 years experience and holding a National Diploma in Arboriculture, the Arboricultural Association's Technicians Certificate, Professional Tree Inspection Certificate (LANTRA) as well as a degree in History and Society. Work experience within the industry includes work as a Contracts Manager for an Arboricultural Association Approved Company, a Local Authority Tree Preservation Officer and an independent Arboricultural Consultant. As a consultant many of projects undertaken are in the inner London Boroughs of Islington, Hackney, Westminster, Camden, Southwark and RBKC, making Marcus Foster familiar with the most recent requirements of development and constraints on urban trees.

3.0 Survey Details and Scope

3.1 The site survey included the 270 no. trees, 5 no. groups and 1 no. hedge (T1-T279 which excludes T23, T65 & T194 which have been removed since original survey, December 2021) as shown in the survey, *Appendix A*, and also highlighted on the site plans, *Appendix B*.

3.2 The trees and hedges were surveyed from ground level from within their site location. The diameter of the trunks have been measured using a DBH tape at 1.5m height. The height of the trees have been estimated.

3.3 The following information was recorded for each tree and is shown in the Tree Schedule included in *Appendix A*:

- Number: an identity number which cross-references locations shown on the plan in Appendix A with the schedule in Appendix B.
- Species: listed by common names
- Tree Height: height in metres (m)
- Tree Spread: spread in metres (m)
- Stem diameter: measured in millimetres (mm) and taken at 1.5m above ground level
- Age Class: Y (young); EM (early-mature); M (mature); OM (over-mature)
- Vigour: G (good); F (fair); P (poor); D (dead)
- Structural Condition: G (good); F (fair); P (poor); D (dead)
- General Condition Specific comments relating to each tree
- Estimated Remaining Contribution (years)
- BS5837 Category Grading
- Protection Distance m2 Area (where applicable – BS5827: 2012)
- Protection Distance Radius (where applicable – BS5827: 2012)

3.4 Information recorded in the tree survey, *Appendix A* is expanded in the report findings and preliminary recommendations have been made in *Section 5*.

3.5 Findings as shown within *Appendix A* and assessed within *Section 5* are also highlighted within *Appendix B* which incorporates the Tree Constraints Plan (TCP) - drawing T002 addressing areas where arboricultural solutions are required. The Tree Protection Plan (TPP) - drawing T003 provides outline tree protection measures.

4.0 Survey Limitations

4.1 No soil excavations have been carried out.

4.2 This report only considers the trees and conditions at the time of inspection. As the inspection was only visual no guarantee can be given concerning the condition of the wood at present in any of the trees inspected and furthermore that no future problems or deficiencies may arise.

4.3 The survey has been undertaken as a survey of the trees without prior influence of the development and implicating factors.

4.4 No invasive tools were used during this site survey.

4.5 It should be noted that vegetation including shrubs within this / the neighbouring sites have not been included in the survey as none were within close or relevant proximity .

4.6 The survey has been undertaken from within the site only.

4.7 No additional documentation unrelated to the property or development has been referred to for the trees or the property for the compilation of this report.

5.0 Tree Survey Summary

5.1 The trees have been surveyed in accordance with BS5837: 2012 'Recommendations for trees in relation to construction' (BS5837: 2012) and have been rated as follows:

Category 'A' trees

Trees of high quality with an estimated remaining life expectancy of at least 40 years. Trees have been categorised as 'A' trees for one of the following reasons:

- Mainly arboricultural qualities
- Mainly landscape qualities
- Mainly cultural values including conservation

Within the Site Plan (Appendix B) those trees rated as 'A' category trees have a **green** outline as denoted within the site plan key / survey.

T26, T29, T30, T32, T52, T56, T96, T110, T115, T117, T120, T123, T134, T170, T235, T236, T244, T245, T247, T250, T255, T257, T261, T263, T264

Category 'B' trees

Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. Trees have been categorised as 'B' trees for one of the following reasons

- Mainly arboricultural qualities
- Mainly landscape qualities
- Mainly cultural values including conservation

Within the Site Plan (Appendix B) those trees rated as 'B' category trees have a **blue** outline as denoted within the site plan key.

T1, T3, T4, T5, T7, T9, T13, T14, T15, T16, T17, T18, T19, T27, T31, T34, T36, T37, T39, T40, T41, T42, T45, T46, T47, T48, T50, T51, T53, T55, T58, T60, T61, T62, T64, T7, T77, T82, T83, T84, T85, T86, T87, T89, T90, T91, T92, T93, T94, T95, T97, T99, T100, T104, T111, T113, T114, T119, T122, T124, T127, T128, T129, T130, T131, T132, T133, T135, T136, T138, T139, T140, T141, T144, T147, T148, T149, T150, T151, T152, T155, T156, T157, T158, T160, T162, T163, T164, T165, T167, T169, T73, T174, T176, T177, T178, T181, T182, T183, T185, T187, T188, T189, T190, T191, T196, T198, T199, T202, T203, T204, T205, T206, T211, T212, T213, T214, T215, T216, T217, T218, T219, T220, T221, T232, T234, T237, T239, T240, T242, T246, T248, T251, T252, T253, T256, T259, T262, T266, T268, T271, T277, T278, T279

Category 'C' trees

Trees of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm. Trees have been categorised as 'C' trees for one of the following reasons

- Arboricultural qualities - unremarkable trees of very limited merit
- Mainly landscape qualities
- Trees with no material conservation or cultural value

Within the Site Plan (Appendix B) those trees rated as 'C' category trees have a **grey** outline as denoted within the site plan key.

T21, T22, T24, T25, T35, T38, T43, T49, T57, T59, T66, T67, T68, T69, G70, T71, T72, G73, T74, G75, T81, T88, T98, T101, T102, T103, T105, T106, T108, T109, T116, T118, T121, T125, T126, T137, T143, T145, T146, T154, T166, T171, T172, T180, T184, T192, T193, T195, T197, T200, T201, T207, T209, T22, T223, T224, T225, T226, T227, T228, T229, T230, T231, T233, T238, T241, T243, T249, T254, T258, T260, H265, G267, T269, T270, T272, T273, G274, T276

Category 'U' trees

Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.Within the Site Plan (Appendix B) those trees rated as 'U' category trees have a **red** outline as denoted within the site plan key.

T28, T44, T63, T78, T79, T80, T107, T112, T142, T153, T159, T161, T175, T179, T186, T208, T210, T275

5.2 The trees have been surveyed taking into account condition, general health and form without the development process influencing the survey. In addition they have also been surveyed taking account of amenity value that is offered in relation to both the landscape and surrounding buildings and streetscape. This report outlines the impact that the proposed development will have on the overall treescape and landscape; it provides recommendations to ensure that long-term amenity value for the area is retained.

5.3 The report has been written with close reference to the British Standard Guidance, British Standard 5837: 2012 'Recommendations for trees in relation to construction' (BS5837: 2012), which addresses the juxtaposition between trees and structures. The Arboricultural Impact Assessment highlights areas where the trees will require protection which should be addressed within the Arboricultural Method Statement (AMS) and/or Tree Protection Plan (TPP) specific to the site and proposed scheme, and corroborating with all construction and landscape method statements as relevant.

5.4 The report specifies precautions which shall be taken when working close to retained trees. Important terms include:

Root Protection Area (RPA)
The area defined as requiring protection from development from retained trees within BS5837 (2012). Using a calculation provided within BS5837 a radius distance is provided based on a measurement of the main stem taken at 1.5m height.

Construction Exclusion Zone (CEZ)
This is the RPA where no construction activity should occur and damage is prevented by either installing fencing to restrict access or installing ground protection that allows limited access above the ground, while protecting the rooting environment below.

Due to site constraints and the encroaching nature of development for an area within the RPA outside the CEZ where works are proposed, works must be carried out with care to minimise any impact on the tree rooting environment.

Tree Protection Plan (TPP)
The document which defines the extent and methodology of tree protection for the entire development process. This should be referred to AT ALL TIMES by the principal contractor and shall ensure safe protection of all retained trees on site.

Precautionary Area
An area where works must be undertaken with direct consultation with methodology as specified within the AMS report and / or scheme of Arboricultural supervision

6.0 Arboricultural Impact Assessment

Site Overview

6.1 The 270 no. trees, 5 no. groups and 1 no. hedge (T1-T279 which excludes T23, T65 & T194 which have been removed since original survey, December 2021) are located within London Borough of Richmond upon Thames (LBRuT). The following statutory checks have been made for the site:

CONSERVATION AREA STATUS
N/A as per checks made 22/07/22

TREE PRESERVATION ORDER (TPO) STATUS
All trees covered by TPO 0865 January, 2016 - LBRuT

6.2 An overview of the site including boundary via aerial imagery as shown below demonstrates the extensive landscape which is associated with the site:

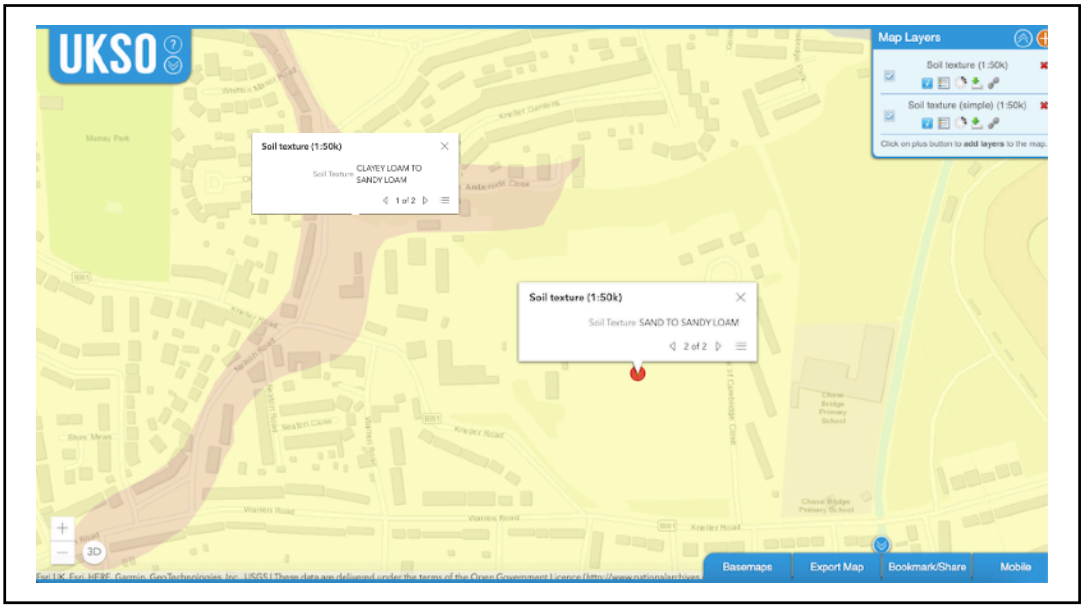
Extract from
Kneller Hall Masterplan Supplementary Planning Document (SPD) - March 2020

6.3 For the purposes of this report and the proposed development, the trees were surveyed from within the site only as no neighbouring the site were deemed relevant to the proposals:

6.4 The underlying soil to this area is classified as the following

(i) Western and north western site:
'clayey loam to silty loam'
(ii) Central, north, east and south site:
'sand to silty loam'

within the UK Soil Observatory (www.ukso.org) - a medium to heavy soil mix:



Extract from Soil Observatory - 01/02/22 - www.ukso.org

6.5 The presence of a clay element, for a significant area of the site, within the soil is significant in terms of both tree protection and foundation design. Clay soils can experience substantial volume changes when vegetation extracts moisture from the ground and they are also prone to compaction when wet; the soil is deemed as being of medium to heavy texture with more susceptibility to compaction. Any tree foundations should also be designed in accordance with the recommendations contained within NHBC Chapter 4.2 (National House Building Council, 2010) and should account for the possibility of both subsidence and heave.

6.6 The site, Kneller Hall comprises some 9.7 hectares in size. It is located in the north-west quadrant of the LBRuT, immediately to the south of the administrative boundary with the London Borough of Hounslow. Previously home of the Royal Military School of Music (RMSM), operated by the Royal Corps of Music, the site is focused around the building known as Kneller Hall, which is Grade II listed, together with ancillary buildings, playing fields and service areas.

6.7 For the purposes of this report, reference has been made to the following plans for the proposed development:

Masterplan

ADP Architecture
001506-ADP-00-00-DR-A-0900-S2 P-5-MASTERPLAN

Landscape Plan

ADP Architecture
ADP-001506-00-XX-DR-L-1905_GIS LANDSCAPE PLAN

Drainage Strategy

AKS Ward Construction Consultants
P2389_00_X_2

6.8 Reference is also made to the following policies:

London Plan, Chapter 8 Green Infrastructure and Natural Environment - Policy G5 Urban Greening (2021)

Kneller Hall Masterplan Supplementary Planning Document (SPD) - March 2020

Extracted from the Kneller Hall Masterplan is the following statement

Trees and hedgerows
Existing trees, in particular those protected under the site-wide TPO, and species-rich hedgerows, should be retained and integrated into the design of the Park. Appropriate new planting should be introduced to assist in framing views towards the Hall, and defining the landscape character of different areas.

6.9 Development proposals are for implementation of a Masterplan for the site including demolition and re-construction of ancillary buildings, construction of a. Swimming pool, general refurbishment works, car parking, cycle storage and landscaping.

6.10 The summary of arboricultural impact which shall be assessed is as follows:

- Tree removal
- Tree replacement
- Potential compaction and damage of the retained trees in relation to the development and landscape process
- Potential damage to canopies of the retained trees surrounding the site during development and landscape process
- The use of and storage of materials and chemicals on site within close proximity of the trees
- Future Occupancy Pressures

6.11 The trees and the impact from the proposed development are evaluated within this section to determine overall arboricultural impact from the proposed development. Where trees are retained the Root Protection Area (RPA) for each tree is evaluated in relation to proposed development works. The following is assessed within this section:

(i) Where tree protection measures are deemed appropriate these are highlighted

(ii) Mitigation for tree loss where trees are proposed for removal

Tree Survey Overview

6.12 The trees, shrubs and hedge surveyed within the subject site are of the following species:

TREES
Sycamore (*Acer pseudoplatanus*)
Norway maple (*Acer platanoides*)
Common lime (*Tilia europaea*)
Ash (*Fraxinus excelsior*)
Eucalyptus (Eucalyptus spp)
Apple (*Malus spp*)
Silver birch (*Betula pendula*)
London plane (*Platanus x hispanica*)
Bird cherry (*Prunus avium*)
English oak (*Quercus robur*)
Horse chestnut (*Aesculus hippocastanum*)
Cherry (*Prunus avium*)
Hornbeam (*Carpinus betulus*)
Whitebeam (*Sorbs aria*)
Crab apple (*Malus huphensis*)
Holly *(Ilex aquifolium*)
Scots pine (*Pinus sylvestris*)
Indian horse chestnut (*Aesculus indica*)
Swedish whitebeam (*Sorbs intermedia*)
Alder (*Alnus incana)*
Walnut (*Jugulars nigra*)
Red oak (*Quercus rubra*)
Aspen (*Populous tremula*)
Beech (*Fagus sylvatica*)
Sweet gum (*Liquidambar styraciflua*)
Atlantic cedar (*Cedrus atlantica*)
Fastigiate hornbeam (*Carpinus betulus* 'Fastigiata')
Yew (*Taxus baccata*)
False acacia (*Robinia pseudoacacia*)
Laburnum (*Laburnum anagyroides*)

HEDGE
Beech (*Fagus sylvatica*)

SHRUB
Elder (*Sambucus nigra*)
June Berry (*Amelanchier canadensis*)

6.13 The main attributes of the trees within the context of the landscape and site are as follows:

(i) Varying form and age of trees across the site
(ii) Mature and historic London plane trees linked to the re-built form of Kneller Hall
(iii) Mature English oak trees linked to landscapes associated with the Hall
(iv) Later plantings, likely early Victorian era - notably of Lime, Horse chestnut and Oak which have established a mature semi-formal landscape
(v) 20th century plantings associated with the latter development of the site

6.14 The following key features describe the trees in groupings as surveyed in relation to form and location:

6.14.1 *T1-T40: Western Boundary*

The western boundary includes the following trees and constraints:

(i) Boundary plantings approximately 30-50 years old mainly comprising Norway maple and Lime
(ii) Trees provide important screening to Kneller Road and Whitton Drive including junction of the two highways
(iii) Trees have generally unmanaged form and are set within soft landscapes where boundary features do not retain trees from highway
(iv) Includes prominent and notable tree T26 - a mature London plane tree likely linked to the historic planting of the site. This tree has been poorly served by previous site usage with the following attributes:
- lightweight structures constructed on RPA to south
- Excessive hard landscape / car parking close to base
- Selectively poor pruning history

6.14.2 *T41-T79: North western Boundary and inner site surrounding ancillary buildings*

The north western boundary includes the following trees and constraints:

(ii) Also within the area are semi-mature to mature, ornamental and amenity plantings with species mix including Crab apple, Apple, Silver birch, Lime, Sycamore

6.14.3 *T80-T96 Lime Avenue to south west of Bandstand*

Trees T80-T96 to the south west of band stand includes the following trees and constraints:

(i) 16 no. mature Lime trees within avenue planting

(ii) Mature London plane (T96) to north east of avenue is a notable tree. This tree along with others of similar size are likely linked to the historic planting of the site.

6.14.4 *T97-T117: Bandstand area*

This area to the north and associated with the bandstand includes the following trees and constraints

(i) Generally ornamental plantings including the following species: Cherry / Alder/ Horse chestnut / Alder Norway maple which form the edge of acidic soil / grassland area noted to be of considerable ecological significance by ecologist
(ii) A mature oak has high biodiversity value within the area with woodpecker damage and potential bat roosting

6.14.5 *T118 - T153: North East Boundary / Acid Grassland*

This area includes the following trees and constraints:

(i) An area of acidic grassland which clearly relates to historical parkland form of the site
(ii) Key features include:
- Mature lime tree avenue provide dominant feature of the landscape (remnants of / partially remaining) with lapsed management but excellent amenity and biodiversity value
(iii)Semi- mature London planes - not relating to historic London plane plantings within the site
(iv) Other plantings include Sycamore / Red oak / Cherry / Horse chestnut / Alder
(v) Lesser / younger specimens generally sited to the north east of grouping planted between 30-40 years

6.14.6 *T154-T164: Eastern Boundary*

This boundary includes the following trees and constraints

(i) 10 no. trees providing linear planting to eastern boundary including the following species: 5 no. Fastigiate hornbeams / 2 no. Cherry / 1 no. Lime; some with declining form and 'U' category status

6.14.7 T165 - T186: *South East Boundary*

The southern boundary with Kneller Road includes the following trees and constraints:

(i) 1no. Mature London plane tree (T170) likely linked to the historic planting of the site. The tree has excellent form but early signs of declining vitality within upper crown
(ii) Additionally there are 2 no. stumps remaining of the mature London plane trees which previously existed. The tree officers stressed the importance of the value of this tree and other London plane trees within the site which provide historical link to the site
(iii) Other early mature to mature species providing important screening and amenity between highway and site include English oak, horse chestnut, Sycamore, Red oak, Norway maple, Beech

6.14.8 *T187 - T243: South Boundary / Main Driveway*

This area includes the following trees and constraints:

(i) Semi-mature to mature trees to the east and west of driveway with fair to good form. Species mix includes Lime, Sycamore, English oak, Cherry, Horse chestnut, London plane
(ii) Semi-mature to mature trees to the south of Kneller Hall and extended hard landscapes with fair to good form. Species mix includes Holly, Yew, False acacia, Horse chestnut
(iii) Provide important element of green infrastructure of the site with screening and amenity between highway and historic building. Long term potential of trees / canopy cover for this area excellent providing continuity of mature and established landscape for the site

6.14.9 *T245-T255: Centre of Site extending to pavilion*

This area includes the following trees and constraints:

(i) Semi-mature to mature trees to the east of Kneller Hall. Trees with fair to good form and species mix includes English oak, Red oak, False acacia, Lime offering good canopy cover with plantings set out to good proportions
(ii) Area is characterised by undulating topography with car parking and pedestrian pathways set out associated with existing outbuildings

Updated Survey Findings - August 2022

6.15 Additionally further to undertaking a site visit on 5th August 2022, the Survey Schedule has been updated which can be directly related to the following 2 factors:

(I) Storm damage of Storm Eunice (February 2022)
(ii) Drought stress - summer 2022

6.16 The following key points are relevant in relation to the updated survey:

Trees removed
T23 - Silver birch: storm damaged fallen (Storm Eunice, February 2022); root plate lifted
T65 - Crab apple; storm damaged fallen (Storm Eunice, February 2022); root plate lifted
T194 - Horse chestnut; storm damaged fallen (Storm Eunice, February 2022); root plate lifted

Trees Dead / Condition Updated
T28 - Cherry: tree is dead - downgraded to 'U' category
T63 - Whitebeam: tree is storm damaged - only 50% crown remains; unbalanced - downgraded to 'U' category
T79 - Indian horse chestnut - tree largely dead - downgraded to 'U' category'
T107 - Norway maple: Major storm damage centrally at 7m. Left disfigured/open canopy - downgraded to 'U' category
T153 - Sweet gum: Storm damage, major at 3m height. Low vigour- downgraded to 'U' category
T159- Cherry: downgraded to 'U' category'
T161- Cherry: downgraded to 'U' category'
T165 - English oak: Low growth developing over highway
T171 - English oak: Decline accelerating with open sections to upper crown - downgraded to 'C' category

T186 - Beech tree; decline accelerating - no change to category
T208 - Horse chestnut: Major storm damage to mid / upper crown. Reduced to limited form; limited lifespan - downgraded to 'U' category'
T210 - Cherry: tree is now dead
T249 - Ash: downgraded to 'C' category due to excessive storm damage / open crown sections
T275 - False acacia: Major deadwood for 40% of crown, hazardous. downgraded to 'U' category

Additional photographs highlighting updating status of these trees as above are included within Appendix C with original survey photos.

Tree Removal

6.17 As shown within the TCP (drawing T002) The following 12 no. trees and 1 no. hedge are proposed for removal to facilitate development:

- 5 no. 'B' category trees:
  T19, T22, T24, T25, T64

- 4 no. 'C' category trees and 1 no. 'C' category hedge:
  T21, T67, T68, T69, H265

- 3 no. 'U' category trees
  T20, T33, T63

It should be noted that no 'A' category trees require removal. Trees and hedge requiring removal are as follows:

T19 Lime
T20 Lime
T21 Apple
T22 Silver birch
T24 Sycamore
T25 Sycamore
T33 Sycamore
T63 Whitebeam
T64 Alder
T67 Crab apple
T68 Crab apple
T69 Horse chestnut
H265 Beech

6.18 Additionally the following 15 no. 'U' category trees are included within the survey and based on category rating and form shall require removal and replacement within the next 5-10 years unrelated to development pressures and future occupancy:

T44, T78, T79, T80, T107, T142, T153, T159, T161, T175, T179, T186, T208, T210, T275

6.19 The trees are rated as 'U' category within the survey for the following reasons: limited lifespan, dead / dying form and hazardous form. The removal of these shall be made at the appropriate time within a management strategy alongside the phased delivery of the scheme, within the next 5- 10 years as per 'U' category status. All applications in relation to statutory protections shall be made for these trees.

6.20 Within the proposal the inclusion of circa 60 no. replacement trees shall enhance canopy cover within the site improving the green infrastructure and ensuring that the declining tree stock is replaced for the long term.

6.21 Within the circa 60 no. replacement trees, the following shall be accounted for:

- Climate change resilience
- Pest and disease resilience
- Future occupancy consideration for garden / amenity areas
- Aftercare and establishment programme
- All tree planting to be undertaken in accordance with BS8545 (Trees: From Nursery to Independence in the Landscape, 2014)

6.22 The adoption of the 'right tree right place' mantra shall ensure that a successful tree planting scheme is implemented for the long term to negate the requirement for excessive management as previously exhibited where poor plantings have been implemented across the site, notably surrounding the ancillary buildings.

6.23 Taking account of proposals the impact of the development with proposed tree removal has been considered within the context of the Kneller Hall Masterplan and the scheme provides mitigation for the limited tree removal where the size and of the site is taken into account via the following:

(i) incorporating additional measures to enhance biodiversity, proportionate to the development proposed;
(ii) protecting and increasing the canopy cover of the site, through providing replacement trees;
(iii) providing tree planting within the developed area and the wider landscape also

Tree Retention

6.24 Within the development proposal the retention and protection of trees within close proximity of the development shall be undertaken for all trees.

- Retention where feasible for the long term only
- Application of tree protection measures
- Application of structural engineering tree protection measures for structure within rear garden within RPA of T6, T10, T12

6.25 The development proposal RPA incursions are as follows for 8 no. trees:

Teaching Block
T26: London plane - Less than 1 % @ 0.04% RPA incursion

Forest School Building
T46: Sycamore - 18% RPA incursion
T48: Lime - 9% RPA incursion
T50: English oak - 5% RPA incursion
T53: Lime - 4% RPA incursion

Plant Room
T59: Norway maple - 5% RPA incursion

Kneller Hall Extension
T72 - Holly: 9% RPA incursion

Sports Pavilion
T261 - English oak 1% incursion

6.26 For these incursions mitigation shall be applicable via the following:

(I) Tree protection measures applicable for incursions to building footprints to be outlined within AMS with construction methodology to corroborate with AMS at pre-commencement stage

(I) Tree protection measures applicable for incursions to forest school outbuilding to be outlined within AMS with construction methodology to corroborate with AMS at pre-commencement stage

6.27 The following Precautionary Areas shall be applicable as outlined within the AMS:

(i) Ground works for proposed development footprint within Precautionary Areas / RPA of retained trees

(ii) Ground works for proposed development footprint of Forest School out building within Precautionary Areas / RPA of retained trees; he proposed use of a helical screw pile structural engineering methodology for the foundations shall allow for the structure to be constructed within the RPA of T46, T48 T50 & T53

(iii) Ground works for final landscape / boundary treatment works within RPA of retained trees

(iv) Hard surfacing to be installed above existing soil level where required within RPA of retained trees with works undertaken under arboricultural supervision

(v) Lightweight structures including cycle storage to be installed above existing soil level using cellular load bearing membrane approved by supervising arboriculturist

(vi) Existing hard surfaces to be retained until construction is complete and thereafter where removed shall be under arboricultural supervision. Where removal is required prior to completion of main construction works, supervising arboriculturist shall specify appropriate ground protection subject to site usage within the scheme of supervision

(vii) Demolition of existing structures to be undertaken under arboricultural supervision within RPA of retained trees

(viii) Formalisation of any level changes within RPA to be undertaken under arboricultural supervision

6.28 The following tree protection measures as mitihgation shall be applied as specified within Section 6, AMS and the TPP:

(i) TREE PROTECTION FENCING
(ii) GROUND PROTECTION
(iii) PRECAUTIONARY AREAS
(iv) PROTECTION FROM SITE STORAGE, INFRASTRUCTURE & WELFARE

6.29 Additionally facilitative tree works to implement the development are required for the following trees:

T11 - Norway maple
T12 - Norway maple
T13 - Lime
T14 - Lime
T29 - Lime
T46 - Sycamore
T48 - Lime
T50 - English oak
T71 - Holly
T72 - Holly

All works shall be undertaken at pre-commencement stage with Tree Works Schedule included within Section 9.

Summary of Arboricultural Impact

6.30 The proposed development requires tree protection measures and mitigation for the implementation of development as follows:

Tree Protection applicable to the following trees:
All trees retained - category A-C

Mitigation applicable for the removal of the following trees:
- 5 no. 'B' category trees:
  T19, T22, T24, T25, T64
- 5 no. 'C' category trees and 1 no. 'C' category hedge:
  T21, T67, T68, T69, H265
- 3 no. 'U' category trees
  T20, T33, T63

Whilst 15 no. further Category U trees are also proposed for removal, the removal of these trees is recommended due to their condition, and is not required to facilitate the development. Notwithstanding this, replacement tree planting is also proposed for these trees.

6.31 The tree protection measures shall ensure that the development does not detrimentally impact the amenity value and canopy cover of the site. In summary the arboricultural impact as outlined within drawing T003 - Tree Protection Plan (TPP) shall require for the following tree protection measures:

(i) TREE PROTECTION FENCING
(ii) GROUND PROTECTION

(iii) PRECAUTIONARY AREA
(iv) PROTECTION FROM SITE STORAGE, INFRASTRUCTURE & WELFARE
(v) FACILITATIVE TREE WORKS

6.32 For implementing tree protection, an Arboricultural Supervision Scheme prepared at pre-commencement to corroborate with construction methodology shall be agreed by the Local Authority to ensure the application of all tree protections.

6.33 A landscape scheme with mitigation for loss of removed trees and shrubs shall include replacement planting to provide long term canopy cover; this shall ensure that the development does not detrimentally impact the amenity value and canopy cover of the site but enhances for the long term.

6.34 Additionally the proposal to replace the 12no. Trees and 1 no. hedge with circa 60 no. new trees provides a significant uplift in the canopy cover for the site in accordance with policy set out within the London Plan and seeks to provide a long term strategy for enhanced canopy cover for the site, notably to the eastern boundary and surrounding proposed structures. This is clearly outlined within the Tree Removal & Replacement Plan - drawing T003 set out in Appendix B.

7.0 Arboricultural Method Statement

The following tree protection measures require full adherence AT ALL TIMES with full supervision from the consulting arboriculturist as outlined within an Arboricultural Supervision Scheme prepared at pre-commencement to corroborate with construction methodology and sequencing. The measures are outlined within the Tree Protection Plan (TPP) - drawing T005.

7.1 **Pre-commencement**

7.1.1 A Pre-commencement meeting scheduled prior to tree works or enabling works is to include a meeting with the following interested parties:

- Arboricultural Consultant
- Main Contractor (Contracts Manager)
- Demolition Contractor
- Local Authority Tree Officer (Invited and attending at discretion)
- Arboricultural Contractor

Following the meeting issue of the approved TPP shall be made to all relevant parties.

7.2 **Tree Works**

7.2.1 Tree works required during the development are outlined within *Section 8 - Tree Works Schedule*

7.2.2 For enabling the development and undertaking tree works the following methodology must be applied:

Trees clearly marked with spray marker for the following operations:
(i) tree removal (red spray marker)
(ii) pruning works (white spray marker)

↓

LBRuT provided with five working days prior written notice of the intention to undertake tree works

↓

Tree works undertaken

7.2.3 Any additional tree works required where relating to the approved development shall be documented within the scheme of supervision and applications made to the Local Planning Authority as relevant.

7.3 **Tree Protection Fencing**

7.3.1 Protection of the trees highlighted for retention shall be implemented as explained below and as specified within the TPP (T005) to provide Construction Exclusion Zones (CEZ) where no access at any time during the development is permitted for each phase. Full specification is included within *Appendix E* of this report to BS5837:2012 Figure 2 specifications.

7.3.2 These measures shall remain for the entire construction process until final landscape works in order to provide a comprehensive barrier from the trees:

- The areas surrounding the trees should be surrounded by protective fencing as outlined in TPP - T005

- The protective fencing used should be suitable for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained trees.

- This barrier shall remain rigid and complete during the entire construction process.

- The type of fencing used should be that as described in the current British Standard 5837: 2012 'Recommendations for trees in relation to construction'. This consists of a scaffold framework as outlined in the British Standard comprising a vertical and horizontal framework, well braced to resist impacts, with the vertical tubes spaced at a maximum of 3m. A weldmesh panel should be securely fixed with wire or scaffold clamps to the framework. The specifications of this fencing have been outlined in *Appendix D*.

- Once this Exclusion Zone has been protected by fencing all weather notices as included in *Appendix C* must be put onto the barrier warning that the area is a construction exclusion zone.

- No heavy plant shall come into contact with any part of the canopies of the trees.

- No building materials or chemicals are stored within the Construction Exclusion Zone (CEZ) as specified on the TPP plans.\

- There will be no changes in ground levels, no soil stripping, and no plant, equipment, or materials will be stored

- Oil, bitumen, diesel, and cement will not be stored or discharged within 10m of any trees

- No notice boards, or power or telephone cables, will be attached to any of the retained trees.

7.3.3 The site notice as included in *Appendix E* summarising the above information must be visible at all times for employees working within the site.

7.4 **Storage of Construction site related materials, plant and spoil**

7.4.1 Designated storage areas have been highlighted within the TPP - drawing T001 which are located outside of the RPA (modified) of all trees and shall be used for storage of the following:

GENERAL WASTE
REMOVAL OF SPOIL
WELFARE & SITE INFRASTRUCTURE
STORAGE OF MATERIALS
STORAGE OF CHEMICALS
STORAGE OF MACHINERY

7.4.2 Additionally a designated Wheel washer area is sited outside of the RPA of any retained trees and below the level of any retained trees where there would be the potential for wash off into a retained RPA.

7.4.3 Any site storage outside of this area and within the RPA of any retained tree is not permitted and would require consent in writing from the Local Authority before being implemented.

7.4.4 The site storage and welfare facilities must be set up prior to any enabling works and approved by the consulting arboriculturist within the scheme of supervision.

7.5 **Ground Protection**

7.5.1 For the areas highlighted within drawing T001 (TPP) where access is required within the RPA of retained trees the following must be applied prior to the commencement of development works including enabling and demolition.

The locations where these measures will be required are marked clearly on the TPP:

FOR PEDESTRIAN TRAFFIC
7.5.2 For pedestrian traffic the following methodology must be applied:

Set Out & Approval
Laying of geo textile membrane over marked areas prior to implementing ground protection

↓

Installation
Implementation of 75mm bark mulch layer overlapped with minimum 15mm OSB plyboard surface or load bearing ground protection boards to provide ground protection for development process

↓

Approval of Installation
Inspection and approval by consulting Arboriculturist

↓

Development / Construction Phase
Inspection and approval by consulting Arboriculturist throughout development

↓

Removal of Ground Protection
Removal of ground protection using hand tools only and inspection / approval by consulting arboriculturist

Any proposed amendment to construction methodology which requires for alterations to specification as highlighted above shall require written notification to the LBRuT tree officer.

FOR VEHICULAR TRAFFIC (up to 1.5 tonne maximum) the following methodology must be applied:

7.5.3 For the areas highlighted within the TPP where access for the use of mini digger / light machinery up to 1.5 tonne is required not on existing pathways, ground protection must be used AT ALL TIMES as follows, or similar product with representative specification for load bearing capacity:

TuffTrak Ground Protection Solutions
MD1 EUROMAT https://tufftrak-safety.com/products/medium-duty-ground-protection/euromat/

7.5.4 Method of installation for the ground protection for vehicular traffic up to 1.5 tonne maximum shall be undertaken as follows:

Set Out & Approval
Designated ground protection area to be defined with and agreed for inspection by consulting arboriculturist for each stage

Laying Ground Protection
Ground to be covered with protective mats and machinery to access Individual areas on matting pathway only without ground disturbance Matting to be moved around to accommodate each working activity

Approval of Installation & Working Methods
Inspection and approval by consulting arboriculturist

Development Works
Ground to be continually covered with protective mats and machinery to access Individual areas on matting pathway only without ground disturbance. Continued inspection and approval by consulting arboriculturist during works

7.5.5 All existing tarmac surfaces within the access roads shall be retained and used for the development process until requiring removal for the proposed scheme.

7.6 **Demolition**

7.6.1 Following pre-commencement and site set up including all tree protection measures, the demolition of existing buildings and removal of existing areas of hard surfacing that abut or overlie RPAs shall be undertaken with care, under the supervision of the appointed arboricultural consultant, to ensure that the adjacent soil is not unacceptably excavated, disturbed or compacted.

7.7 **Precautionary Area Works**

7.7.1 The following areas are clearly defined within the TPP as 'Precautionary Works Area' and require full arboricultural supervision as highlighted within this AMS, the TPP and the Arboricultural Scheme of Supervision as agreed at pre-commencement stage:

(i) Ground works for proposed development footprint within Precautionary Areas / RPA of retained trees

(ii) Ground works for proposed development footprint of Forest School out building within Precautionary Areas / RPA of retained trees; he proposed use of a helical screw pile structural engineering methodology for the foundations shall allow for the structure to be constructed within the RPA of T46, T48 & T50

(iii) Ground works for final landscape / boundary treatment works within RPA of retained trees

(iv) Hard surfacing to be installed above existing soil level where required within RPA of retained trees with works undertaken under arboricultural supervision

(v) Lightweight structures including cycle storage to be installed above existing soil level using cellular load bearing membrane approved by supervising arboriculturist

(vi) Existing hard surfaces to be retained until construction is complete and thereafter where removed shall be under arboricultural supervision. Where removal is required prior to completion of main construction works, supervising arboriculturist shall specify appropriate ground protection subject to site usage within the scheme of supervision

(vii) Demolition of existing structures to be undertaken under arboricultural supervision within RPA of retained trees

(viii) Formalisation of any level changes within RPA to be undertaken under arboricultural supervision

7.8 **Manual excavation within RPAs**

7.8.1 BS5837 (2012) makes provision for undertaking excavations in RPAs, explaining that all excavation must be carried out carefully using spades, forks and trowels, It is important not to damage the bark and wood of any roots. For this area, these tools must be used with no machinery used for the preliminary works.

7.8.2 For the 'Precautionary Area' works where manual excavations within the RPA of retained trees may be required the following must apply:

- Removal of existing surface by hand or where hard landscapes with low pneumatic tools under arboricultural supervision

- Initial excavations to be either of the following as deemed appropriate within construction methodology:

  (i) air spade (see *Section 5.7.4)*
  (ii) hand dug (see *Section 5.7.3)*

7.8.3 For hand dug excavations the following tools are appropriate with methodology described below:

- Initial 750mm to be hand dug excavations to ensure no severance of major roots. With all works for this area undertaken by hand, the severance of any larger roots encountered up to 25mm diameter should then be undertaken by the supervising arboricultural consultant to ensure clean severance

- Where tree root severance is not feasible due to size)significant root density in excess of 25mm diameter size)and nature structural engineering solutions / bridging of tree roots as agreed with consulting arboriculturist must be applied.

- Close adherence with detailed tree root protection specifications as outlined within this report

7.8.4 Where Air spade techniques are deemed appropriate these must be operated by qualified contractors. His spades utilise a two-tool air compressor and hand-held lance to dislodge soil, using highly pressurised jets of air. This allows trenches to be excavated without causing the significant root damage associated with the use of conventional digging techniques such as, spade or excavator buckets. Example imagery is shown below:

Example imagery of air spade use for implementing utilities beneath root plate (existing)

Reputable companies providing this service include as follows (list not exhaustive):
https://www.ruskins.co.uk/airspade
http://www.dfclark.co.uk/bionomique-service/air-spade-investigation-and-remediation/

7.9 **Final Hard Landscape Works within RPA of Retained Trees**

7.9.1 For final landscaping works the following shall apply where carried out within the RPA of retained trees

- No reduction in levels of the underlying soil surface will occur during final landscaping works within the RPA of retained trees
- Close adherence with detailed excavations and root protections specifications as outlined within *Section 5.8*
- No compaction of soils for establishing level base for hard landscapes
- No installation of drainage channels / landscape features without prior written consent of the Local Authority

7.9.2 BS5837 (2012) makes provision for undertaking ground works in RPAs, explaining that all excavation must be carried out carefully using spades, forks and trowels, It is important not to damage the bark and wood of any roots. Specialist tools for removing soil around roots using compressed air may be an appropriate alternative to hand digging, if access is available.

Final Landscape Works Tools & Methodology

7.9.3 Reference to the AMS & TPP must be made at all times and the following methodology applied and documented within the scheme of arboricultural supervision should minor excavations be required:

- For landscaping works appropriate tools for general landscape works removing debris may include a pneumatic breaker, crow bar, sledge hammer, pick, mattock, shovel, spade, trowel, fork and wheelbarrow.

- Should roots be exposed they will be required to be wrapped in hessian fixed in place with duct place and kept moist until the consulting arboriculturist can provide further guidance and recommendations
- Secatuers and a handsaw must also be available to deal with any exposed roots that have to be cut. Debris to be removed from RPA area shall be removed without disturbance of the RPA / CEZ
- The use of mechanical diggers / wheelbarrows / machinery is not permitted for the implementation of final landscape works within the RPA of retained trees

7.9.4 For the construction of proposed hard surfaces that encroach within RPA's damage to tree roots shall be avoided by building them above existing soil level, to avoid any excavations. The locations where these measures will be required are marked clearly on the TPP

7.9.5 Within the RPA of retained trees the tree protection methods for areas currently laid to different surfaces is clearly defined as follows and must adhere to tree protection guidelines outlined within this AMS:

ABOVE SOIL SURFACING (SOFT LANDSCAPE GROUND)
Where within a defined RPA, surfaces shall be installed above existing soil level where located in ground currently unsurfaced (turf removal permitted). Works are deemed as 'Precautionary Area Works' and must be included within the scheme of arboricultural supervision

ABOVE SOIL SURFACING (SURFACED)
Where within a defined RPA, hard surfaces shall be installed above existing soil level where located in ground currently surfaced to levels no deeper than the base of existing surfaces. Works are deemed as 'Precautionary Area Works' and must be included within the scheme of arboricultural supervision

7.10 **Ground De-compaction Works**

7.10.1 Where the Arboricultural consultant and / or LBRuT tree officer highlights the requirement for ground de-compaction to improve the rooting environment of any retained tree the following shall be specified:

> *Terraventing*
> *The Terravent works by driving a 22mm hollow probe into the soil using a drop hammer which is incorporated into the Terravent head.Once at the required depth (generally 600mm) the probe is connected to a high pressure gas source usually Nitrogen Bottles. The small reservoir on the top of the Terravent head is charged to a pressure of 50bar and a dump valve is released causing a blast of gas to come out of the holes at the bottom of the probe.This terraventing causes the soil to rupture both horizontally and vertically thus breaking up of any layers that are preventing the exchange of air and moisture within the root zone. After this part of the Terravent cycle is completed then a further optional feature is the ability to add a rejuvenating mixture of beneficial fungi /stimulants directly into the root area*

7.10.2 The following process shall be undertaken to improve the rooting environment of trees where deemed appropriate. All works documented within scheme of arboricultural supervision

(i) Trees with associated RPA identified for terraventing
(ii) Terraventing undertaken within 6 months
(iii) Health of tree documented and identified

7.10.3 Companies which undertake these services within greater London include (list not exhaustive:

GO ROOTS goroots.co.uk/terravent
RUSKINS https://www.ruskins.co.uk/decompaction-and-helping-trees

8.0 Installation of Utility Services

8.1 For the development, the drainage plan is overlaid to the TCP - DWG T004. Where agreed at pre-commencement the tree officer shall be notified of all utility proposals which have the potential to impact trees within the scheme of supervision.

8.2 If for any reason installation of utility services within the RPA of this trees is required, the consulting arboriculturist and Local Authority must be notified. The following methodology shall apply:

(i) The supervising arboricultural consultant shall confirm in writing the finalised utilities plan where services require updating

(ii) Should services require updating or installation within the RPA of retained trees these shall be confirmed in writing with the Local Authority Tree Officer for agreement of methodology prior to the scheduling or commencement of any works

8.3 Where installation is required, and only as agreed with Local Authority Tree Officer the, any ground tree protection / fencing and barrier removal shall only be carried out with the following details adhered to:

- Trenching for the installation of underground services severs any tree roots present and can have a detrimental impact on the structural integrity of affected trees. When services are required to pass through a Tree Protection Area, detailed plans showing proposed routes should be drawn up in conjunction with the consulting arboriculturist to avoid long term health and anchorage problems for retained trees

- The preferable method for trenching is to use a 'Air Spade' or similar to remove soil with compressed air, therefore minimising damage to roots in the process

8.4 Further reference can be made to National Joint Utilities Group (Volume 4, Issue 2) for guidance but any works within the RPA of retained trees must be approved by both the consulting arboriculturist and Local Authority tree officer.

9.0 Communication, Monitoring and Compliance

9.1 In ensuring that all Tree Protections Specifications as highlighted within this method statement are fully adhered to at all times, it is important to set out for the long term of the development, communication details for key individuals and tasks that require monitoring.

9.2 An Arboricultural Supervision Scheme must be prepared and agreed by LBRuT at pre-commencement which corroborates with the construction sequencing to ensure tree protection measures as outlined within this report are fully enforced and adhered to.

9.3 The key individuals appointed for advising and complying with Tree Protection specifications must adhere to the following at all times:

- Relevant parties / key individuals must be advised of any changes in personnel or contractor during the development process.
- Relevant parties / key individuals must be responsible for relaying information regarding tree protection within work force where deemed applicable / relevant

9.4 Once the Tree Protection Fencing has been installed and for the remainder of the development until the final stage as highlighted in *Section 3: Sequence of Events* above, it must be considered as sacrosanct and should not be removed or altered without prior written consent from the Local Authority tree officer and/or consulting arboriculturist.

9.5 The local authority (LBRuT) tree officer shall have free access to the site and forward any concerns / recommendations directly to the consulting arboriculturist.

SUPERVISING ARBORICULTURIST
Name - Marcus Foster *Arboricultural Design & Consultancy*
Address - Mill Cottage, Pett Road, East Sussex, TN35 4HE
Telephone - 07812024070
Contact - Marcus Foster
Email - mail@marcus-foster.com

LONDON BOROUGH of RICHMOND (LBRuT) - TREE OFFICER
Name - Arboricultural Services
Telephone - 020 8891 1411
Contact - Jane Crowther
Email -Trees&Parks@richmond.gov.uk

10.0 Tree Works Schedule

10.1 Any tree work shall be carried out to BS 3998; 2010 Recommendations for Tree Work and shall be confirmed at pre-commencement meeting.

NOTE: Wildlife & Habitat Protection Guidelines

The tree work specifications included within this report do not provide an exemption from the requirements to comply with the Wildlife and Countryside Act 1981, the Habitats Regulations 1994 and the Countryside and Rights of Way Act 2000, or any acts offering protection to wildlife. Of particular note is the protection offered to bats, birds and their nests, whilst being built or in use. It must be noted that failure to comply with the Acts may result in a criminal prosecution.

10.2 Tree Works Schedule - Removal

TREE WORKS SCHEDULE: REMOVAL TO FACILITATE DEVELOPMENT
Kneller Hall, Twickenham, TW2 7DU

Tree No.	Common Name	BS5837 Category	Tree Works	Reasons for works
T19	Lime	B	Fell to ground level and grind out stump	To facilitate development
T20	Lime	U	Fell to ground level and grind out stump	To facilitate development
T21	Apple	C	Fell to ground level and grind out stump	To facilitate development
T22	Silver birch	B	Fell to ground level and grind out stump	To facilitate development
T24	Sycamore	B	Fell to ground level and grind out stump	To facilitate development
T25	Sycamore	B	Fell to ground level and grind out stump	To facilitate development
T33	Sycamore	U	Fell to ground level and grind out stump	To facilitate development
T63	Whitebeam	U	Fell to ground level and grind out stump	To facilitate development
T64	`Alder	B	Fell to ground level and grind out stump	To facilitate development
T67	Crab apple	C	Fell to ground level and grind out stump	To facilitate development
T68	Crab apple	C	Fell to ground level and grind out stump	To facilitate development
T69	Horse chestnut	C	Fell to ground level and grind out stump	To facilitate development
H265	Beech	C	Fell to ground level and grind out stump	To facilitate development

10.2 Tree Works Schedule - Pruning (T11, T12, T13, T14, T29, T46, T48, T50, T71, T72)

TREE WORKS SCHEDULE: TREE PRUNING
Kneller Hall, Twickenham, TW2 7DU

Tree No.	Common Name	BS5837 Category	Tree Works	Reasons for works
T11	Norway maple	C	Crown reduce height and spread by branch lengths of 2.5-3.0m to give compact balanced shape retaining soft furnishing growth for even and flowing canopy outline	To facilitate development
T12	Norway maple	C	Crown reduce height and spread of northern crown only by branch lengths of 2.0-2.5m to reduce encroachment to proposed elevation and give clearance for scaffold erection pruning to give even and flowing canopy outline by retaining soft furnishing growt	To facilitate development
T13	Lime	B	Crown reduce height and spread of northern crown only by branch lengths of 2.0-2.5m to reduce encroachment to proposed elevation and give clearance for scaffold erection pruning to give even and flowing canopy outline by retaining soft furnishing growt	To facilitate development
T14	Lime	B	Crown reduce height and spread of northern crown only by branch lengths of 2.0-2.5m to reduce encroachment to proposed elevation and give clearance for scaffold erection pruning to give even and flowing canopy outline by retaining soft furnishing growt	To facilitate development
T29	Lime	A	Crown reduce height and spread of eastern crown only by branch lengths of maximum 1.5m pruning to give even and flowing canopy outline by retaining soft furnishing growth	To facilitate development
T46	Sycamore	B	Crown lift to 5m height	To facilitate development
T48	Lime		Crown lift to 5m height	To facilitate development
T50	English oak		Crown lift to 5m height	To facilitate development
T71	Holly	C	Crown reduce height and spread of southern crown only by branch lengths of maximum 1.0m pruning to give even and flowing canopy outline by retaining soft furnishing growth	To facilitate development
T72	Holly	C	Crown reduce height and spread of southern crown only by branch lengths of maximum 3.0m pruning to give even and flowing canopy outline by retaining soft furnishing growth	To facilitate development

10.2 Tree Works Schedule - Removal unrelated to development (T44, T78, T79, T80, T107, T142, T153, T159, T161, T175, T179,T186, T208, T210, T275)

TREE WORKS SCHEDULE: REMOVAL
(RECOMMENDED UNRELATED TO DEVELOPMENT WITHIN NEXT 5-10 YEARS)
Kneller Hall, Twickenham, TW2 7DU

Tree No.	Common Name	BS5837 Category	Tree Works	Reasons for works
T44	English oak	U	Fell to ground level and grind out stiump	To dispense with duty of care / general management works
T78	Scots pine	U	Fell to ground level and grind out stiump	To dispense with duty of care / general management works
T79	Indian horse chestnut	U	Fell to ground level and grind out stiump	To dispense with duty of care / general management works
T80	Lime	U	Fell to ground level and grind out stiump	To dispense with duty of care / general management works
T107	Cherry	U	Fell to ground level and grind out stiump	To dispense with duty of care / general management works
T142	Sycamore	U	Fell to ground level and grind out stiump	To dispense with duty of care / general management works
T153	American sweet gum	U	Fell to ground level and grind out stiump	To dispense with duty of care / general management works
T159	Cherry	U	Fell to ground level and grind out stiump	To dispense with duty of care / general management works
T161	Cherry	U	Fell to ground level and grind out stiump	To dispense with duty of care / general management works
T175	Sycamore	U	Fell to ground level and grind out stiump	To dispense with duty of care / general management works
T179	Beech	U	Fell to ground level and grind out stiump	To dispense with duty of care / general management works
T186	Beech	U	Fell to ground level and grind out stiump	To dispense with duty of care / general management works
T208	Horse chestnut	U	Fell to ground level and grind out stiump	To dispense with duty of care / general management works
T210	Cherry	U	Fell to ground level and grind out stiump	To dispense with duty of care / general management works
T275	False acacia	U	Fell to ground level and grind out stiump	To dispense with duty of care / general management works

Appendices

Appendix A

Tree Survey Schedule (BS5837:2012)

Kneller Hall, Twickenham, TW2 7DU

Colour Key: BS5837: 2012 (see Section 3.6)

- Category A
- Category B
- Category C
- Category U

BS5837:2012 TREE SURVEY
Kneller Hall, Twickenham, TW2 7DN
BS5837 Tree Schedule (BS5837:2012) - 20 & 21 December 2021 (Updated 5 August 2022)

Tree No	Species	Height (m)	DBH (mm)	Spread (m) N/E/S/W	Age	Structural Condition	Vitality	BS5837 (2012) Rating	Remaining Contribution (years)	Comments / Structural Condition	Root Protection Area (RPA) m2	Root Protection Area (RPA) Radius (m)
T1	Sycamore	16	720	5 6 4 5	EM	F	G	B2	20+	Even distribution buttress roots; crown break at 3m sound. Open cavity at 4m to south.	234.55	8.6
T2	Sycamore	9	300	2 3 2 5	SM	P	P	C2	10+	Suppressed form, max deadwood. Eastern crown pruned heavily.	40.72	3.6
T3	Norway Maple	16	680	4 7 3 8	M	F	G	B2	20+	Asymmetric crown east to west; notably to east. Exposed buttress roots with strimmer damage. Major/minor deadwood throughout. Wound at 1.5m to north previously seeping; occluding.	209.21	8.2
T4	Norway Maple	14	650	4 3 4 6	M	F	G	B2	20+	Exposed buttress roots with mower damage. Major wound to south at 1.8m occluding. Crown dominant to east.	191.77	8.5
T5	Sycamore	14	540	2 3 5 6	EM	F	F	B2	20+	Dominant buttress to south west; major pruning wounds throughout. Open crown.	131.93	6.5
T6	Norway Maple	12	310	1 3 2 5	SM	F	F	C2	10+	Suppressed form; dominant to west; one-sided crown.	43.48	3.8
T7	Sycamore	14	510	5 3 4 5	EM	F	G	B2	20+	One-sided crown to west. Major deadwood with early signs of decline. Historic pruning wounds with open decay pocket.	117.68	6.1
T8	Lime	17	600	4 4 5 4	EM	F	G	B2	20+	Union at 2.5m tight where main stem bifurcates. Columnar developing form; pruned from highway lights.	162.88	7.2
T9	Sycamore	10	300	1 3 3 2	SM	F	F	C2	10+	Suppressed form; one-sided crown to south. Excessive pruning history.	40.72	3.6
T10	Norway Maple	14	640	7 3 6 5	M	F	G	B2	20+	Exposed buttress roots within 1.5m radius - with minor damage. Major dead sections notably within lower crown. Congested inner crown.	185.32	7.7
T11	Norway Maple	14	370	6 3 2 6	SM	F	G	B2	20+	Exposed buttress roots within 1.5m radius - with minor damage. One-sided crown to north, crown thinned.	61.94	4.4
T12	Norway Maple	14	610	6 3 3 3	M	F	G	B2	20+	Exposed buttress roots within 1.5m radius - with minor damage. Crown pruned from lighting to highway.	168.36	7.3
T13	Lime	16	560	4 4 4 4	EM	F	G	B2	20+	Lean to south, Norway maple roots growing within buttress roots; major wounds on main stem to north occluding.	141.89	6.7

Tree No	Species	Height (m)	DBH (mm)	Spread (m) N/E/S/W	Age	Structural Condition	Vitality	BS5837 (2012) Rating	Remaining Contribution (years)	Comments / Structural Condition	Root Protection Area (RPA) m2	Root Protection Area (RPA) Radius (m)
T14	Lime	14	370	4 3 4 4	EM	F	G	B2	20+	Decay pocket within pruning point at 2m height. Developing form. Utilities within 3m distance.	61.94	4.4
T15	Lime	16	540	4 3 5 4	EM	F	G	B2	20+	Extended exposed buttress roots to 3m distance from main stem - notably to north. Columnar developing form within grouping.	131.93	6.5
T16	Lime	16	470	3 5 5 4	EM	F	G	B2	20+	Accentuated and exposed buttress roots to south east. Columnar developing form, dominant crown to east over structure.	99.95	5.6
T17	Lime	16	360	3 3 3 3	SM	F	G	B2	20+	Developing columnar form.	58.64	4.3
T18	Lime	16	420	3 5 4 4	EM	F	G	B2	20+	Developing columnar form; crown dominant to east. Ivy developing to 4m height. Major deadwood.	79.81	5.0
T19	Lime	15	510	4 4 4 4	EM	F	G	B2	20+	Significant and exposed buttress roots to west. Broadening form; major deadwood.	117.68	6.1
T20	Lime	12	380	5 4 4 4	SM	P	F/P	U	Less than 10 years	Declining form with dieback to upper crown. Decay at base to 3m height; limited reaction growth to dead sections of main stem to north.	-	-
T21	Apple	5	360	4 3 2 4	EM	G	G	C2	10+	Ornamental apple with crown lifted form and upper crown heavy form. Historic pruning wounds occluding.	58.64	4.3
T22	Silver birch	13	360	2 3 4 3	M	F	G	B2	20+	Crown dominant to south; utilities line through southern crown at 6m height.	58.64	4.3
T24	Sycamore	15	t/s 720 480	3 6 7 7	EM	F	G	B2	20+	Twin stemmed at base; leaning to south. Dominant southern stem. Significant crown thinning.	162.88	7.2
T25	Sycamore	15	640	4 4 4 6	EM	F	G	B2	20+	Lean to south, straightening at 3m height. Dominant crown to west.	185.32	7.7
T26	London Plane	28	1610	8 10 9 6	M	G	G	A1	40+	Lean to south east; even distribution of buttress roots, very mature specimen; hard landscape within 5m of north and west of main stem. Pruning history limited to crown lifting notably to south for major wounds, selective reduction and thinning. Decay pocket at 10m to south east from limb removal. Crown dominant to south and east. Declining vigour noted on upper crown to east.	651.55	14.4
T27	Lime	14	510	4 5 5 4	EM	F	F	B1	20+	Accentuated buttress roots to north west. Previously crown reduced form. Hard landscape 1.5m to north.	117.68	6.1

Tree No	Species	Height (m)	DBH (mm)	Spread (m) N/E/S/W	Age	Structural Condition	Vitality	BS5837 (2012) Rating	Remaining Contribution (years)	Comments / Structural Condition	Root Protection Area (RPA) m2	Root Protection Area (RPA) Radius (m)
T28	Cherry	7	240	4 2 3 4	SM	D	D	U	0	Tree is dead	-	-
T29	Lime	18	820	5 5 5 6	M	G	L	A2	40+	Balanced form. Accentuated and exposed buttress roots to all sides. Union at 3.5m sound. Balanced form.	304.23	9.8
T30	London Plane	20	980	8 8 9 8	EM	G	G	A2	40+	Lean to north east with exposed anchorage roots initially. Union at 4m height gives way to broad and spreading form; dominant south west leader.	425.71	11.6
T31	Cherry	15	450	3 3 3 3	EM	G	G	B2	20+	Columnar form within grouping.	91.62	5.4
T32	Beech	18	600	4 4 4 4	SM	G	G	A2	40+	Lean to south east. Bifurcation at 1.5m with sound union; developing form.	162.88	7.2
T33	Sycamore	14	650	2 2 2 2	M	P	P	U	Less than 10 years	Tree is largely dead; hazardous.	-	-
T34	Sycamore	19	980	5 7 5 5	M	F	F	B2	20+	Lean to north. Perenniporia fruiting body at base within buttress. Absence of lower crown to south. Declining vigour upper crown.	425.71	11.8
T35	Cherry	5	200	2 4 3 2	SM	F	F	C1	20+	Ornamental tree; understory to T34.	19.95	2.5
T36	Horse chestnut	12	940	4 6 6 8	M	F	F	B2	20+	Sweep to east from base. Topped at 10-12m height. Lateral crown to west retained in mid-lower crown.	399.78	11.3
T37	Lime	4	960	4 4 4 4	M	F	F	B2	20+	Hard landscapes to south and west within 1.5m height. Bifurcates at 4m height; union sound. Topped at 12m height; lapsed 3-4 years.	416.98	11.6
T38	Cherry	6	320	5 1 5 3	SM	F	F	C2	10+	Ornamental form; crown dominant north to south.	46.33	3.8
T39	Hornbeam	14	420	4 4 4 4	EM	G	G	B2	20+	Squirrel damage within main union 2-4m; developing form.	79.81	5.0
T40	Lime	13	410	3 3 4 3	SM	G	G	B2	20+	Accentuated buttresses; columnar form - balanced.	76.06	4.9
T41	English oak	15	680	3 7 3 5	EM	F	F	B2	20+	Lean to east; major deadwood with declining vitality.	209.21	8.2

Tree No	Species	Height (m)	DBH (mm)	Spread (m) N/E/S/W	Age	Structural Condition	Vitality	BS5837 (2012) Rating	Remaining Contribution (years)	Comments / Structural Condition	Root Protection Area (RPA) m2	Root Protection Area (RPA) Radius (m)
T42	Sycamore	15	t/s 480 490	5 3 4 4	EM	G	G	B2	20+	Twin-stemmed at base with sound union. Sinuous form; balanced crown.	104.24	4.9
T43	Cherry	14	390	5 3 5 2	EM	P	F	C2	10+	Bifurcation at 2.5m height. Northern stem 50% dead, crown unbalanced.	68.82	4.7
T44	English oak	5	850	1 1 1 1	OM	D	D	U	-	Tree is dead; monolith	-	-
T45	English oak	15	760	6 3 5 4	EM	F	F	B2	20+	Damage to base (west) occluding. Open cavity at 6m height - woodpecker damage. Open crown/declining vitality.	261.33	9.1
T46	Sycamore	15	460	3 4 4 4	SM	F	F	B2	20+	Open wound at 0.8-4m - occluding. Lighting/utilities 2m to north east.	95.74	5.5
T47	English oak	17	430	4 3 4 4	SM	F	F	B2	20+	Bifurcation at 3m height with sound main union. Columnar form. Major deadwood.	83.66	5.1
T48	Lime	16	420	3 4 4 4	SM	F	G	B2	20+	Bifurcation at 3m height; tight union columnar form.	79.81	5.0
T49	Maple	5	190	4 1 1 4	Y	F	F	C2	10+	Suppressed form; crown to west/north only.	16.33	2.3
T50	English oak	17	870	7 3 7 5	M	F	G	B2	20+	Decay at base to west with reaction growth. OPM evident at 2.5m. Major deadwood throughout.	242.46	10.4
T51	English oak	18	620	5 4 5 4	EM	F	F	B2	20+	8.5m from gas cupboard. Absent crown to east. Major deadwood to south within site.	173.92	7.4
T52	London Plane	28	1400 (estimate)	8 9 9 9	M	F	G	A2	40+	Off-site; retainer wall to south excludes tree from within site. Limited pruning history with exception of lifting and thinning.	651.55	14.4
T53	Lime	15	380	3 4 3 4	SM	G	G	B2	20+	Bifurcation at 3m - union open, developing form.	65.33	4.6
T54	Lime	11	300	2 3 4 3	SM	F	F	C2	10+	Crown suppressed to west.	40.72	3.6
T55	London Plane	18	720	4 5 6 5	SM	F	G	B2	20+	Developing form; major deadwood within lower crown having grown to light. Possible massaria to dieback on upper side of framework branches.	234.55	8.6

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T56	London Plane	21	1060	6 8 9 7	M	G	G	A2	40+	Accentuated buttress to south west. Low broadening crown; pruning to east.	508.37	12.7
T57	Sycamore	9	320	2 4 6 2	SM	F	F	C2	10+	Understorey form; unbalanced, growing to east.	46.33	3.8
T58	Norway maple	19	450	4 2 4 3	EM	F	G	B2	20+	Bifurcates at 3m - union sound. Columnar developing form.	91.62	5.4
T59	Norway maple	13	480	2 4 6 3	EM	F	F	C2	10+	Main union at 2-2.5m; congested. Unbalanced growing to south. Open crown; notable dieback to upper crown.	104.25	5.7
T60	Sycamore	15	920	7 8 8 5	M	F	F	B2	20+	Lean to south east. Dominant leader develops from union at 2.5m height. Declining vigour, deadwood. Brittle fractures throughout with major deadwood. Large pruning wounds to south over existing structure.	382.95	11.0
T61	Sycamore	15	m/s 280	4 4 6 5	EM	F	F	B2	20+	Multi-stem form; congested at base. Absence of crown to north. Ivy to 9m height.	24.63	2.8
T62	Sycamore	12	400	4 4 5 5	SM	G	G	B1	20+	Tree has balanced form; developing.	72.39	4.8
T63	Whitebeam	6	340	5 1 1 3	EM	P	P	C1	10+	Poor form; unbalanced to north. Further storm damage. Limited lifespan without excessive management	-	-
T64	Alder	7	360	3 3 3 4	SM	G	G	B1	20+	Developing form; conically compact shape. Lifted to 3m height.	58.64	4.3
T66	Crab apple	5	200	3 3 3 3	EM	F	F	C1	10+	Domed crown; lower crown heavily pruned.	18.1	2.4
T67	Crab apple	5	260	3 1 2 2	SM	F	F	C1	10+	Ornamental form - cavity at 1.0m to south.	30.59	3.1
T68	Crab apple	5	230	2 3 2 2	SM	F	F	C1	10+	Ornamental form.	23.93	2.8
T69	Horse chestnut	5	200	2 2 2 2	Y	G	G	C1	10+	Young tree; developing form.	18.1	2.4

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G70	Holly	5	m/s 180	4 4 4 4	SM	F	F	C2	10+	Multi-stem grouping. Crown lifted form.	/	1.8
T71	Holly	4	150	2 1 2 1	Y	F	F	C1	10+	Suppressed form with fair vigour/declining form.	10.18	1.8
T72	Holly	7	460	2 2 3 2	M	F	F	C1	10+	Hard landscape to base, damage to main stem to south. Topped at 6-7m height. Re-growth with low vitality.	95.74	5.5
G73	Yew	4	m/s 120	4 1 4 1	Y	G	G	C2	10+	Lapsed hedge, low screening form.	/	1.4
T74	Cherry	8	260	3 3 2 3	SM	F	G	C2	10+	Developing form; sited 1m from structure to west.	30.59	3.1
G75	Holly	5	m/s 180	4 2 4 2	SM	F	F	C2	10+	Multi-stem hedge form, lapsed low vitality.	/	1.8
T76	Horse chestnut	16	1000 (estimate)	5 6 8 7	M	F	G	B1	20+	Eastern base against level change, ivy clad form to 6m height. Large limb removed to north east; limited pruning history for remainder.	452.45	12.0
T77	Oak	8	310	4 4 4 4	SM	F	F	B2	20+	Excessive crown lifting; seepage at 2.5m to south - possible sudden oak decline. Tree planted 1990 (memorial tree).	43.48	3.7
T78	Scots pine	4	180	1 1 1 1	Y	P	P	U	Less than 10 years	Tree is largely dead.	-	-
T79	Indian horse chestnut	9	460	3 4 3 3	EM	P	P	U	Less than 10 years	Open cavities from previous pruning wounds - woodpecker damage. Tree is largely dead	-	-
T80	Lime	9	400	3 3 3 3	SM	P	P	U	Less than 10 years	Tree is 40% dead with major deadwood. Excessive hard landscape surrounds.	-	-
T81	Lime	12	360	2 2 3 2	SM	F	F	C2	10+	Tree is declining in vigour from upper crown. Columnar form.	58.64	4.3
T82	Lime	15	390	2 3 4 3	EM	F	G	B2	20+	Major deadwood 9m to south.	68.82	4.7
T83	Lime	16	420	2 3 3 3	EM	F	G	B2	20+	Columnar form. Major deadwood to south.	79.81	5.0

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T84	Lime	16	400	2 2 4 3	EM	F	G	B2	20+	Columnar form. Major deadwood to south. Bifurcates at 3m; union sound.	72.39	4.8
T85	Lime	16	420	2 3 4 3	EM	F	G	B2	20+	Columnar form. Major deadwood to south. Bifurcates at 3m; union sound.	79.81	5.0
T86	Lime	16	410	2 2 4 3	EM	F	G	B2	20+	Major deadwood 10m to north.	76.06	4.9
T87	Lime	16	450	2 3 4 2	EM	F	G	B2	20+	Columnar form.	91.62	5.4
T88	Lime	15	480	5 3 3 4	EM	F	F	C2	10+	Major deadwood in upper crown. Declining form.	104.24	5.7
T89	Lime	15	450	4 3 3 3	EM	F	G	B2	20+	Seepage to south of main stem. Crown growing on existing structure to north west. Major deadwood.	91.62	5.4
T90	Lime	18	480	5 2 2 2	EM	F	G	B2	20+	Columnar form. Within avenue planting. Previously reduced and lapsed by 5-10 years.	104.24	5.7
T91	Lime	18	500	5 2 2 2	EM	F	G	B2	20+	Columnar form. Within avenue planting. Previously reduced and lapsed by 5-10 years. Over extended to north.	113.11	6.0
T92	Lime	18	510	5 2 2 2	EM	F	G	B2	20+	Columnar form. Within avenue planting. Previously reduced and lapsed by 5-10 years. Over extended to north.	117.68	6.1
T93	Lime	18	500	5 2 2 2	EM	F	G	B2	20+	Columnar form. Within avenue planting. Previously reduced and lapsed by 5-10 years. Over extended to north.	113.11	6.0
T94	Lime	18	490	5 2 2 2	EM	F	G	B2	20+	Columnar form. Within avenue planting. Previously reduced and lapsed by 5-10 years. Over extended to north.	108.63	5.9
T95	Lime	18	500	5 4 2 2	EM	F	G	B2	20+	Lapsed reduction form at 12-14m.	113.11	6.0
T96	London plane	22	1380	7 8 9 5	M	F	G	A1	40+	Lean to south. Lesions to main stems to south east, 10-14m. Historic pruning comprising reduction to buttress crown and excessive lifting/reduction to northern crown.	651.53	14.4
T97	Lime	16	620	2 4 4 4	EM	F	G	B2	20+	One-sided crown; absent to north due to previous suppression of mature London plane. Bifurcates at 3m - union sound.	173.92	7.4

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T98	Beech	12	860	5 7 5 4	SM	F	F	C2	10+	Decay pocket at 2.5m to south. Storm damage to north. Heavy pruning wounds to north - unbalanced form.	334.63	10.3
T99	Lime	16	630	4 4 4 4	EM	F	G	B2	20+	Cavity at 4m to south; wood pecker holes at 8m height. Balanced/compact crown shape.	179.58	7.6
T100	Cherry	7	490	4 4 3 4	M	F	F	B2	10+	Accentuated anchorage root to east; congested union at 1.5m; compact crown shape.	108.63	5.9
T101	Cherry	5	680	5 4 4 4	OM	P	F	C1	10+	Gannoderma fruiting brackets at base to 0.3m on all sides. Compact, mature form. Leans to north west.	209.21	8.2
T102	Weeping cherry	2.5	200	1 1 1 2	EM	F	F	C1	10+	Ornamental form; limited lifespan.	18.1	2.4
T103	Weeping cherry	2.5	210	1 1 1 3	EM	F	F	C1	10+	Ornamental form; limited lifespan.	19.95	2.5
T104	Swedish white beam	10	450	4 4 3 4	M	F	G	B2	20+	Decay to main stem; generally occluded. Congested crown break at 2-2.5m.	91.62	5.4
T105	Swedish white beam	12	490	4 3 4 4	M	F	G	C1	20+	Decay to main stem; generally occluded. Congested crown break at 2-2.5m.	108.63	5.9
T106	Weeping cherry	2.5	190	1 2 1 1	EM	F	F	C1	10+	Ornamental form; limited lifespan.	16.33	2.3
T107	Cherry	5	400	3 2 3 2	M	P	P	U	Less than 10 years	Tree is largely dead.	-	-
T108	Alder	9	340	3 3 3 3	SM	F	F	C2	10+	Sparsely foliated; topped at 5m; lapsed by 10 years.	52.3	4.1
T109	Horse chestnut	7	320	3 3 3 3	Y	F	F	C2	10+	Compact young form; bleeding canker to main stem.	46.33	3.8
T110	English oak	17	1150	5 6 9 8	M	F	G	A1	40+	Leans to north. Evidence of hornet wing fly to main stem. Open broad branch framework. Major wounds generally occluded.	598.36	13.8
T111	Lime	12	390	4 3 4 3	SM	G	G	B2	20+	Accentuated buttresses to south and west. Exposed anchorage roots within drip line. Pendulous form.	68.82	4.7

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T112	Norway maple	14	380	3 5 5 3	SM	P	F	U	Less than 10 years	Major storm damage centrally at 7m. Left disfigured/open canopy.	-	-
T113	Norway maple	13	390	4 5 4 4	SM	F	G	B2	10+	Compact developing form; crown dominant to east.	68.82	4.7
T114	Lime	20	750	3 4 3 3	M	F	F	B2	20+	Significant epicormic at base; bifurcates at 5m with sound union. Limited crown spread with dieback selectively to mid-upper crown.	254.5	9.0
T115	London plane	15	630	5 5 6 6	SM	G	G	A1	40+	Lean to south; broadening developing form.	179.58	7.6
T116	Black walnut	8	940	3 3 1 3	V	P	F	C2	10+	Veteran form; woodpecker damage. Reduced 5-6m; lapsed 8-10 years.	399.78	11.3
T117	Red oak	15	820	5 7 7 6	M	G	G	A1	40+	Lean to south east; cavities to main stem from limb removal occluding. Open branch framework. Major deadwood.	304.23	9.8
T118	Elder	5	m/s 150	3 2 1 2	SM	F	P	C1	10+	Limited form shrub.	7.07	1.5
T119	Sycamore	15	m/s 520	5 6 4 5	EM	F	F	B1	20+	Multi-stem form with dominant eastern stem - with most vitality. Deadwood/brittle branches throughout.	122.34	6.2
T120	Maple (silver)	19	1080	8 5 8 5	M	G	G	A1	40+	Accentuated buttresses to south and west. Large spreading crown; excellent form.	527.24	13.0
T121	English oak	4	180	2 2 3 2	Y	F	F	C1	10+	Suppressed form; topped at 2.5m. Sudden oak decline evident with staining to main stem.	10.18	2.1
T122	Maple	18	550	5 2 6 2	EM	F	G	B2	20+	Lateral crown north to south. Limited spending habit.	136.87	6.6
T123	Maple	19	890	7 4 6 4	M	F	G	A1	40+	Broadening, mature developing form. Lower crown extended to south.	358.38	10.7
T124	Aspen	16	520	5 6 5 4	EM	F	G	B2	20+	Crown dominant to east, low growth in meadow area. Bifurcation at 2m height.	122.34	6.3
T125	Cherry	8	360	4 4 4 4	M	F	F	C2	10+	Mature company form. Decay in main union at 2m height extending to 1m above ground level.	58.64	4.3

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T126	Norway maple	7	200	4 3 3 3	SM	F	F	C2	10+	Young developing form; limited crown to south.	18.1	2.4
T127	Lime	13	490	5 3 5 5	SM	F	G	B2	20+	Decay at 4m to east within main stem. Congested lower crown.	108.63	5.9
T128	Sycamore	18	750	5 7 7 6	M	G	G	B2	20+	Cavity at base to south west; partially occluded. Historic pruning off-site to north.	254.5	9.0
T129	Sycamore	18	m/s 400	5 3 5 5	EM	F	G	B2	20+	Congested multi-stem form at 1m height. Ivy clad to 12m height.	50.27	4.0
T130	Sycamore	16	m/s 360	3 2 4 3	SM	F	G	B2	20+	Multi-stem a 0.4-1m height comprising 4 stems; crown dominant to south.	40.72	3.6
T131	Sycamore	18	m/s 400	4 4 4 3	EM	F	G	B2	20+	Congested multi-stem form at 1m height. Ivy clad to 12m height.	50.27	4.0
T132	Sycamore	18	m/s 360	5 5 5 3	EM	F	G	B2	20+	Congested multi-stem form at 1m height. Ivy clad to 12m height. Cavity to removed south west leader at base.	40.72	3.6
T133	Cherry	9	380	4 4 5 5	EM	G	G	B2	20+	Developing form; bifurcation at 3m height with sound union.	65.33	4.6
T134	Lime	22	860	4 5 4 4	M	F	G	A2	40+	Even distribution of buttress roots. Bifurcation at 5m with sound union. Historically managed - lasped 5 years.	334.63	10.3
T135	Cherry	16	630	7 4 4 4	EM	F	G	B2	20+	Exposed anchorage roots to north east and south west. Decay in main union 2m to north east. Columnar crown.	179.58	7.6
T136	Lime	19	850	4 5 4 5	M	F	G	B2	20+	Main crown brake at 3m height is sound. Absent crown to north east with major deadwood in mid to upper crown.	326.89	10.2
T137	Alder	9	430	2 2 2 2	SM	P	F	C2	10+	Topped at 7m height with limited re-growth.	83.66	5.2
T138	Horse chestnut	16	1030	5 4 7 6	M	G	G	B2	20+	Cancker staining to lower main stem at 2m to south. Open cavity at 6m to north east with seepage.	480.0	12.4
T139	Lime	16	380	3 4 4 4	SM	F	G	B2	20	Sited within grouping. Generally sound	65.33	4.6

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T140	Lime	16	380	4 4 4 4	SM	F	G	B2	20 years +	Lean to north, reduced previously, lapsed 8-10 years	65.33	4.6
T141	Lime	22	920	4 4 6 4	M	F	G	B2	20 years +	Bifurcation at 3.5m height. Dominant southern leader. Main leader dead from 10m height. Lapsed reduction points. Major deadwood	382.95	11.0
T142	Sycamore	7	250	1 1 1 1	D	D	D	U	Less than 10 years	Tree is dead.	-	-
T143	Sycamore	14	m/s 320	4 3 4 4	SM	F	F	C2	10+	Northern leader removed at 1m height; north west leader topped at 5m height. Ivy to 9m. Remainder unbalanced.	32.17	3.2
T144	Sycamore	15	m/s 400	5 6 5 5	EM	F	F	B2	20+	Multi-stemmed at base with ivy to 10m height.	50.27	4.0
T145	Alder	12	340	3 3 3 3	SM	F	F	C2	10+	Topped at 7m height with fair regenerative growth.	52.3	4.3
T146	Alder	5	200	1 2 2 2	Y	F	F	C2	10+	Suppressed form with limited crown to north.	18.1	2.4
T147	English oak	12	390	4 4 4 4	SM	G	G	B2	10+	Developing form with balanced crown shape.	68.82	4.7
T148	Beech	14	540	4 5 4 4	SM	G	G	B2	20+	Developing form with balanced crown shape.	131.93	6.5
T149	London Plane	12	400	5 4 4 4	SM	G	G	B2	20+	Developing form with balanced crown shape.	72.39	4.8
T150	Lime	18	820	5 4 5 5	M	F	G	B2	20+	Even buttress roots; congested crown with lapsed form and major deadwood.	304.23	9.8
T151	English oak	16	660	4 7 7 7	SM	G	G	B2	20+	Developing form; absent crown to north. OPM abundant.	197.09	7.9
T152	Atlantic cedar	13	480	4 4 6 4	SM	G	G	B2	20+	Developing form	104.24	5.7
T153	American sweet gum	7	230	3 3 3 2	SM	F	P	U	Less than 10 years	Storm damage, major at 3m height. Low vigour	-	-

Tree No	Species	Height (m)	DBH (mm)	Spread (m) N/E/S/W	Age	Structural Condition	Vitality	BS5837 (2012) Rating	Remaining Contribution (years)	Comments / Structural Condition	Root Protection Area (RPA) m2	Root Protection Area (RPA) Radius (m)
T154	Apple	5	180	2 2 1 1	SM	F	F	C1	10+	Strimmer damage at base with compact form.	14.66	2.2
T155	Swedish whitebeam	12	360	4 1 4 4	EM	G	G	B1	20+	Boundary location with absent crown to east.	58.64	4.3
T156	Fastigiate hornbeam	10	400	5 3 5 5	M	G	G	B1	20+	Balanced crown shape; limited pruning history at lifted to 2.5-3m height.	72.39	4.8
T157	Fastigiate hornbeam	10	460	5 4 4 4	M	G	G	B1	20+	Balanced crown shape; limited pruning history at lifted to 2.5-3m height.	95.74	5.5
T158	Fastigiate hornbeam	12	470	4 4 4 4	M	G	G	B1	20+	Balanced crown shape; limited pruning history at lifted to 2.5-3m height.	99.95	5.6
T159	Cherry	19	520	4 3 4 3	M	P	P	U	Less than 10 years	Decline accelerated from December 2021 survey largely dead	-	-
T160	Hornbeam	12	430	5 4 6 5	EM	G	G	B1	20+	Broadening form; open cavity at 3m to west.	83.66	5.2
T161	Cherry	11	680	5 4 5 5	M	P	P	U	Less than 10 years	Decline accelerated from December 2021 survey largely dead	-	-
T162	Fastigiate hornbeam	11	470	5 4 5 4	EM	G	G	B2	20+	Developing/broadening form.	99.95	5.6
T163	Common lime	14	410	4 4 5 4	SM	G	G	B2	20+	Accentuated buttress to north and west. Open cavity at 4m to west with congested form.	76.06	4.9
T164	Cherry	11	360	5 5 5 4	SM	G	G	B2	20+	Lean to east. Major crown lifting wounds and deadwood throughout.	58.64	4.3
T165	Oak	15	870	4 8 8 7	M	F	F	B2	20+	Lean to south over highway. Topped at 8m from likely storm damage; seepage occurring. Branch framework absent to north west from previous large tree now removed. Low growth developing over highway	34.46	10.4
T166	Lime	14	650	3 3 3 2	M	F	F	C2	10+	Lapsed pollard at 8m height with crown developed from lapsed reduction points. Sub-dominant leader to north east dead - hazardous.	191.16	7.8
T167	Lime	9	240	2 3 3 2	SM	F	F	B2	20+	Recovering from topping at 4-6m height with open cavities to main stem at 2-3m.	26.06	2.9

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T168	Cherry	10	390	4 3 3 2	SM	F	G	B2	20+	Developing form; columnar. Cavities to main stem from crown lifting wounds.	68.82	4.7
T169	Beech	9	330	3 3 3 3	SM	F	G	B2	20+	Suppressed form; main stem bifurcates at 2m with sound union.	49.27	4.0
T170	London plane	28	1530	10 12 8 9	M	G	F	A2	40+	Very large tree with even buttress roots at base. Bifurcation at 6m with sound union. Crown lifting/limb removal wounds fully occluded. Dominant central and western leader showing decline within mid to upper crown. Eastern sub-dominant stem retains good vigour. Storm damage at 15m to north	651.53	14.4
T171	English oak	22	1020	4 6 7 7	M	F	F	B2	20+	Straight bole to 9m height. Storm damage to south at 10m height. Major deadwood and decline throughout and absence of crown to north. Decline accelerating with open sections to upper crown	470.73	12.2
T172	Norway maple	6	190	1 3 4 2	Y	F	G	C2	10+	Suppressed habit with crown dominant to south.	16.33	2.3
T173	Horse chestnut	18	840	3 4 8 5	M	F	G	B2	20+	Suppressed habit with crown dominant to south-west. Limited pruning history with storm damage 12m to south.	319.25	10.1
T174	Norway maple	9	300	3 2 5 4	SM	F	G	B2	20+	Suppressed habit with crown dominant to south-west over highway.	40.72	3.6
T175	Sycamore	17	760	5 4 4 4	M	P	F	U	Less than 10 years	Kretzschmaria deusta fruiting bodies to eastern and northern buttresses. Upper crown showing early stages of die-back. Limited lifespan.	-	-
T176	Red oak	14	540	7 7 5 7	SM	G	G	B2	20+	Developing form with broadening crown shape. Minor deadwood.	131.93	6.5
T177	Red oak	14	440	7 3 4 6	SM	G	G	B2	20+	Developing form with broadening crown shape. Minor deadwood.	87.59	5.3
T178	Norway maple	14	560	4 4 5 5	EM	F	G	B2	20+	Open wound seeping at 0.6-2m height. Congested main union at 2.5-3m height. Minor deadwood.	141.89	6.7
T179	Beech	8	290	4 3 4 3	Y	P	P	U	Less than 10 years	Seepage from wound at 1.2m to east. Declining form with major die-back to south western crown.	-	-
T180	Beech	11	380	4 4 4 3	SM	F	F	C2	10+	Open wound at 0.6-1.4m with seepage. Compact open crown. Limited extension growth noted.	65.33	4.6
T181	Lime	14	310	3 4 4 3	SM	G	G	B2	20+	Bifurcation at 3m height with sound union. Developing form.	43.48	3.7

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T182	Lime	11	300	3 3 1 3	SM	G	G	B2	20+	One-sided crown to north.	40.72	3.6
T183	Horse chestnut	16	820	5 6 4 3	M	F	F	B2	20+	Canker staining to main stem to 7m height showing occluding growth. One-sided crown to east due to previous dominant mature London plane. Regenerative growth to west developing.	304.23	9.8
T184	Cherry	7	250 (estimate)	3 5 3 3	EM	F	G	C2	10+	Suppressed form growing to east; one-sided crown.	28.28	3.0
T185	Lime	15	600 (estimate)	3 4 4 5	M	F	F	B1	20+	Historic pruning to main stem with wounds generally occluded; topped at 10m height. Lapsed with further reduction points also lapsed by 3-4 years. Main deadwood.	162.88	7.2
T186	Beech	10	330	5 3 3 3	SM	P	P	U	Less than 10 years	Tree is 50% dead with damage to base.	-	-
T187	Beech	12	600	5 6 5 5	SM	F	F	B2	20+	Deadwood developing. Hard landscape within 1m of base. Balanced form.	162.88	7.2
T188	Lime	13	480	4 5 5 4	SM	G	G	B2	20+	Accentuated buttresses to north-east. Congested branch framework.	104.24	5.7
T189	Lime	13	480	4 4 5 4	SM	G	G	B2	20+	Low lateral over highway. Initial lean to south with developing crown shape.	104.24	5.7
T190	Lime	12	310	4 4 4 4	SM	G	G	B2	20+	Compact crown shape with decline to upper south west.	43.48	3.7
T191	Lime	18	750	4 4 4 4	M	F	G	B2	20+	Lapsed pollard from 10m height. Historic pruning to main stem with wounds generally occluded; topped at 10m height. Lapsed with further reduction points also lapsed by 3-4 years. Main deadwood.	254.5	9.0
T192	Hornbeam	9	240	4 3 3 2	Y	F	F	C2	10+	Young developing form with stake still attached.	26.06	2.9
T193	Hornbeam	9	t/s 180	4 1 2 1	Y	F	F	C2	10+	Young developing form with stake still attached.	10.18	1.8
T195	Holly	6	180	1 2 1 2	SM	F	F	C2	10+	Developing form with compact crown shape.	14.66	2.2

Tree No	Species	Height (m)	DBH (mm)	Spread (m) N/E/S/W	Age	Structural Condition	Vitality	BS5837 (2012) Rating	Remaining Contribution (years)	Comments / Structural Condition	Root Protection Area (RPA) m2	Root Protection Area (RPA) Radius (m)
T196	Cherry	10	370	3 4 5 3	EM	G	G	B2	20+	One-sided crown to south. Major deadwood with congested crown shape.	61.94	4.4
T197	London plane	12	360	5 3 5 4	SM	G	F	C2	10+	Developing form to upper crown. Congested union at 3m height.	58.64	4.3
T198	Holly	8	290	4 4 3 4	SM	G	F	B2	20+	Poor pruning at 2.5m height. Retains compact form.	38.05	3.5
T199	Sycamore	18	720	5 4 6 4	M	F	G	B2	20+	Open cavity at 2.5m to south west. Epicormic growth developing to lower southern crown.	234.55	8.6
T200	Lime	15	700	3 3 3 4	M	F	F	C2	10+	Poor pruning wounds to main stem to 2.5m height. Topped at 10m height with lapsed leaders in major decline with major deadwood.	221.7	8.4
T201	Hornbeam	5	m/s 150	2 3 2 2	Y	F	F	C2	10+	Low form with limited vigour.	7.07	1.5
T202	Lime	12	420	3 4 4 4	EM	F	F	B2	20+	Bifurcation at 2.5m height with sound union. Topped at 5-8m height, now lapsed.	79.81	5.0
T203	Red oak	15	450	6 5 4 4	EM	G	G	B2	20+	Developing form with wound at 1m to north occluding.	91.62	5.4
T204	English oak	10	400	3 6 5 4	SM	F	G	B2	20+	Low sinuous branch framework. Crown dominant to south.	72.39	4.8
T205	Lime	16	680	4 4 4 4	EM	G	F	B2	20+	Open cavity from topped leader at 5m height. Reduction points lapsed by 5 years with major deadwood throughout.	209.21	8.2
T206	Lime	10	330	3 4 3 4	SM	F	G	B2	20+	Columnar crown shape with balanced form.	49.27	4.0
T207	Beech	10	290	4 2 2 3	SM	P	P	C2	10+	Fistulina hepatica fruiting bracket at 2m to north east. Declining vigour.	38.05	3.5
T208	Horse chestnut	14	480	4 4 4 3	EM	P	P	U	Less than 10 years	Vehicular damage at 1m to north. Lean to north. Bleeding canker staining with reaction growth evident. Major storm damage to mid / upper crown. Reduced to limited form; limited lifespan	-	-
T209	Horse chestnut	12	560	4 3 3 1	EM	F	F	C2	10+	Hard landscapes to base. Decay pockets throughout, notable at 7m to north. Topped at 10m height with limited regrowth.	141.89	6.7

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T210	Cherry	10	300	3 2 3 2	SM	P	P	U	Less than 10 years	Tree is 50% dead.	-	-
T211	Lime	12	360	4 3 3 4	SM	G	G	B2	20+	Developing form with bifurcation at 2-3m with tight union.	58.64	4.3
T212	Lime	11	350	3 4 4 3	SM	G	G	B2	20+	Minor die-back within upper crown.	55.42	4.2
T213	Lime	10	280	3 3 4 2	SM	G	G	B2	20+	Root girdling at base to north. Retains compact form.	35.37	3.4
T214	Holly	8	300	2 3 3 2	SM	G	G	B2	20+	Crown lifted to 2.5m height with low vigour.	40.72	3.6
T215	English oak	14	720	5 6 5 6	EM	G	G	B2	20+	Lean to south west with open crown sections. Major deadwood selectively. Crown lifting wounds occluding.	234.55	8.6
T216	Red oak	13	540	4 5 5 6	SM	F	F	B2	20+	One-sided crown to south. Storm damage at 8m to south. Major deadwood and declining vigour to upper crown.	131.63	6.5
T217	Red oak	14	410	4 6 5 5	SM	G	G	B2	20+	Lean to south with open crown sections; developing form.	76.06	4.9
T218	Lime		280	3 4 3 3	SM	G	G	B2	20+	Tight union at 6m with developing form.	35.37	3.4
T219	Lime	12	320	3 2 4 3	SM	F	G	B2	20+	Exposed anchorage roots with columnar form.	46.33	3.8
T220	Horse chestnut	14	700	3 4 5 4	M	F	G	B2	20+	Open cavities to main stem at 4-5m height. Compact crown shape.	221.7	8.4
T221	Lime	13	380	3 4 4 5	SM	G	G	B2	20+	Sub-dominant leader at 3m height with included bark. Low growth developing to highway.	65.33	4.6
T222	Norway maple	11	300	3 3 3 7	SM	F	F	C2	10+	Major deadwood developing throughout with absence of crown to east.	40.72	3.6
T223	Holly	10	t/s 180	1 2 1 1	SM	F	F	C2	10+	Multi-stem form comprising ornamental grouping, generally poor pruning history.	14.66	2.2

Tree No	Species	Height (m)	DBH (mm)	Spread (m) N/E/S/W	Age	Structural Condition	Vitality	BS5837 (2012) Rating	Remaining Contribution (years)	Comments / Structural Condition	Root Protection Area (RPA) m2	Root Protection Area (RPA) Radius (m)
T224	Holly	9	t/s 180	2 1 1 1	SM	F	F	C2	10+	Multi-stem form comprising ornamental grouping, generally poor pruning history.	14.66	2.2
T225	Holly	9	t/s 220	2 1 1 1	SM	F	F	C2	10+	Multi-stem form comprising ornamental grouping, generally poor pruning history.	15.21	2.2
T226	Holly	9	180	2 1 1 1	SM	F	F	C2	10+	Multi-stem form comprising ornamental grouping, generally poor pruning history.	14.66	2.2
T227	Holly	9	210	2 1 1 1	SM	F	F	C2	10+	Multi-stem form comprising ornamental grouping, generally poor pruning history.	19.95	2.5
T228	Holly	9	180	2 1 2 2	SM	F	F	C2	10+	Multi-stem form comprising ornamental grouping, generally poor pruning history.	14.66	2.2
T229	Holly	9	m/s 200	2 2 3 2	SM	F	F	C2	10+	Multi-stem form comprising ornamental grouping, generally poor pruning history.	12.57	2.0
T230	Holly	7	360	2 2 3 2	SM	F	F	B2	20+	Low vigour for species. Compact form.	58.64	4.3
T231	Holly	8	320	3 3 2 1	SM	F	F	C2	10+	One-sided crown to east; growing within canopy of T232.	46.33	3.8
T232	Yew	9	360	3 3 4 3	SM	G	G	B2	20+	Developing form, crown lifted to 2.5m height.	58.64	4.3
T233	Holly	8	290	3 2 1 2	SM	F	F	C2	10+	One-sided crown to north. Decay to main stem to south at 0.2-1.6m height.	38.05	3.5
T234	Cherry	9	340	3 4 4 1	SM	F	G	B2	10+	Exposed anchorage root with mower damage to north. Crown dominant to east.	52.3	4.1
T235	Yew	10	500	5 4 4 4	EM	G	G	A1	40+	Straight bole with balanced branch framework. Absent mid-upper crown to west.	113.11	6.0
T236	Horse chestnut	17	1180	3 7 6 9	M	G	F	A1	40+	Even distribution of buttress roots and crown break at 5m height with upright leaders to north and lateral limbs to south.	629.99	14.2
T237	Holly	13	420	5 2 3 3	EM	F	F	B2	20+	Bifurcation at 2.5m height with tight union. Lower vigour relative to adjacent trees.	79.81	5.0

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T238	Cherry	7	280	3 3 2 3	SM	P	F	C1	10+	Excessive pruning wounds with one time leader where numerous previously existed. Top heavy form.	35.37	3.4
T239	Tree of heaven	18	590	5 5 4 3	EM	G	G	B2	20+	Crown lifting wounds to 6-7m height. Major deadwood selectively and columnar form.	158.5	7.1
T240	False acacia	12	320	5 2 2 4	SM	F	F	B2	20+	One-sided crown to south with limited extension growth.	46.33	3.8
T241	False acacia	14	340	3 3 3 3	SM			C2	20+	One-sided crown to south west. Major deadwood throughout.	52.3	4.1
T242	False acacia	14	640	7 7 3 6	M	F	F	B2	20+	Previously twin-stemmed. Southern leader removed. Crown dominant to north with limited extension growth. Minor deadwood throughout	185.32	7.7
T243	Lime	13	650	3 3 4 4	M	F	P	C2	10+	Hard landscapes to stub. Previous pruning wounds not regenerated selectively. Open cavities at 3.0m to main set,. Crown topped. Major deadwood	191.16	7.8
T244	Turkey oak	20	800	4 7 8 6	M	G	G	A2	40+	Crown lifted to 8m height; wounds occluded.OPM present. Major deadwood throughout	289.57	9.6
T245	English oak	10	780	4 7 5 6	M	G	G	A2	40+	Crown lifted to 6m height. Balanced form. Major deadwood throughout	275.27	9.4
T246	London plane	16	480	3 7 5 2	SM	F	G	B2	20+	Crown dominant to east from suppression. Crown lifted to 6m height with generally occluded wounds	104.24	5.7
T247	London plane	17	870	8 8 8 3	EM	G	G	A1	40+	Crown dominant to north and east. Crown developing to west with lowering vigour of Ash, T249 to east	342.46	10.4
T248	London plane	12	480	10 4 2 4	SM	F	G	B2	20+	Heavily suppressed with low growth to north. Assymetric form	104.24	5.7
T249	Ash	20	920	12 7 7 5	M	F	F	C2	10+	Significant storm damage to north east. Cavities within main leader at 7, 10 & 11m height - woodpecker damage and possible bat roosts. Major deadwood with open sections of upper crown evident and further developing. Increased open crown sections throughout	382.95	11.0
T250	English oak	20	830	7 4 6 7	M	F	G	A2	40+	Crown lifted to 6m height; generally occluded wounds. Open wound at 4m to west. Open crown sections with major deadwood	311.69	10.0
T251	Horse chestnut	18	760	5 4 5 5	M	F	G	B2	20+	Hard landscapes at base of western buttress. Staining / seepage to east and west at 0.2-2m height. Dense branch framework. Decay with reaction wood at 5-6m height	261.33	9.1

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T252	Lime	12	360	3 4 3 3	SM	G	G	B2	20+	Exposed anchorage root to west to 4m radius from main stem. Crown lifted to 4m height	58.64	4.3
T253	Beech	14	520	4 4 4 4	SM	G	G	B2	20+	Bifurcation at 1.5m height; sub-dominant leader to west . Main leader with developing form	122.34	6.2
T254	Hawthorn	6	280	2 2 2 2	SM	P	F	C2	10+	Poor pruning history to main stem and crown. Hard landscapes to base of tree	35.37	3.4
T255	English oak	18	990	5 7 9 6	M	F	G	A2	40+	Broad crown shape with spreading form. Crown lifting wounds fully occluded. . Recent pruning to mid crown	443.44	11.9
T256	False acacia	15	620	5 4 7 7	M	F	G	B2	20+	Hard landscapes within 2.0m to west / 1.0m to north. Main stem bifurcates at 2.5m with holly sapling growing from union. Major deadwood throughout	173.92	7.4
T257	Horse chestnut	18	960	9 9 6 6	M	G	G	A2	40+	Main union at 2.5m where 3 no. stems develop; 2 no. stems vertically and 1 no. lateral stem to north. Selective pruning, notably lifting / thinning with large spreading form and low growth to 1.0m height	416.96	11.5
T258	Crab apple	4	80	1 1 1 1	Y	F	F	C2	10+	Young tree planted within past 5-10 years	2.9	1.0
T259	Bird cherry	11	480	6 5 6 5	M	F	G	B2	20+	Exposed anchorage roots with mower damage. Crown lifted to 7m height.	104.24	5.8
T260	Cherry	5	220	5 4 5 2	SM	F	F	C2	10+	Ornamental understory form	21.9	2.6
T261	English oak	16	840	9 9 8 8	M	F	F	B2	20+	Hard landscapes to south and east. Low spreading form to south and east. Decline within upper crown with deadwood and open crown sections. Major deadwood throughout	319.25	10.0
T262	London plane	12	280	5 5 3 4	Y	F	G	B2	20+	Crown suppressed to north, developing form	35.37	3.4
T263	English oak	14	860	9 9 9 9	M	F	G	A2	40+	Light lean to south with fused union at 3.0m height. Low broad spreading form. Storm damage within eastern crown. Deadwood throughout	334.63	10.3
T264	Red oak	17	880	9 9 9 9	M	G	G	A1	40+	Excellent buttress roots evenly distributed. Limited pruning history. Crown growing within 1.0m of structure to east and south east. Minor deadwood throughout	350.38	10.6
H265	Beech	3	m/s 100	20 2 20 2	SM	G	G	C2	10+	Screening hedge; cyclically managed, lapsed approx 1 year	/	1.0

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T266	English oak	14	800	4 4 6 7	M	F	G	B2	20+	Major limb removed at 3.0m height to south - wound occluded. Remainder of stem with sweep to north west	289.57	9.6
G267	False acacia/Ash/Holly	8	m/s 150	7 7 7 7	Y	F	F	C2	10+	Multi-stemmed shrub / trees from lapsed management of shrub / ornamental border including Aucuba / Forsythia / Rosa	/	1.5
T268	English oak	9	320	3 4 4 5	Y	F	G	B2	20+	Developing form with sinuous main stem and poor pruning history	46.33	3.8
T269	Holly	5	m/s 200	3 3 2 2	SM	F	P	C2	10+	Understorey form with dieback to upper crown	12.57	2.0
T270	False acacia	16	390	3 5 4 5	EM	F	F	C2	20+	Tree is largely dead to upper west crown. Main stem bifurcates at 4m with screening to union from ivy. Suppressed form from previous existing tree	68.82	4.7
T271	Holly	9	m/s 310	3 3 3 3	EM	F	G	B2	20+	Multi-stemmed form at base ; crown lifted to 2m height	30.19	3.1
T272	Laburnum	6	t/s 180	2 2 2 2	SM	F	F	C2	10+	Ornamental form only. Fair form	10.18	1.8
T273	Oak	7	190	2 3 3 1	Y	F	F	C2	10+	Developing form with absent crown to west	16.33	2.3
G274	Amelanchier / Holly/False acacia / Sumach	7	m/s 150	5 5 5 1	Y/SM	F	F	C2	10+	Multi-stemmed grouping; lapsed ornamental shrub border	/	1.5
T275	False acacia	16	740	4 4 4 4	M	P	P	U	Less than 10 years	Tree is 40% dead within mid-upper crown . Major pruning wound at 4m to south. Eastern stem largely dead. Growing within 1.0m of electricity sub station	-	-
T276	Holly	5	300	3 2 2 3	SM	F	F	C2	10+	Ornamental with low domed form; cyclically managed historically. Growing within 1.0m of electricity sub station	40.72	3.6
T277	English oak	15	690	6 7 6 5	EM	F	F	B2	20+	Dieback evident within upper crown. Absent north east crown. Epicormic growth developing to main stem	215.41	8.3
T278	Lime	17	520	5 3 3 3	EM	F	F	B2	20+	Hard landscapes surround base of tree. Columnar form. Previously managed; lapsed 5 - 6 years	122.34	6.2
T279	Horse chestnut	15	800	5 6 6 6	M	F	F	B2	20+	Off site. Historically pruned over site and highway. Large open cavity to north west at 8m height. Overhang to site of 3m at 6-12m height for northern crown	289.57	9.6

Appendix B

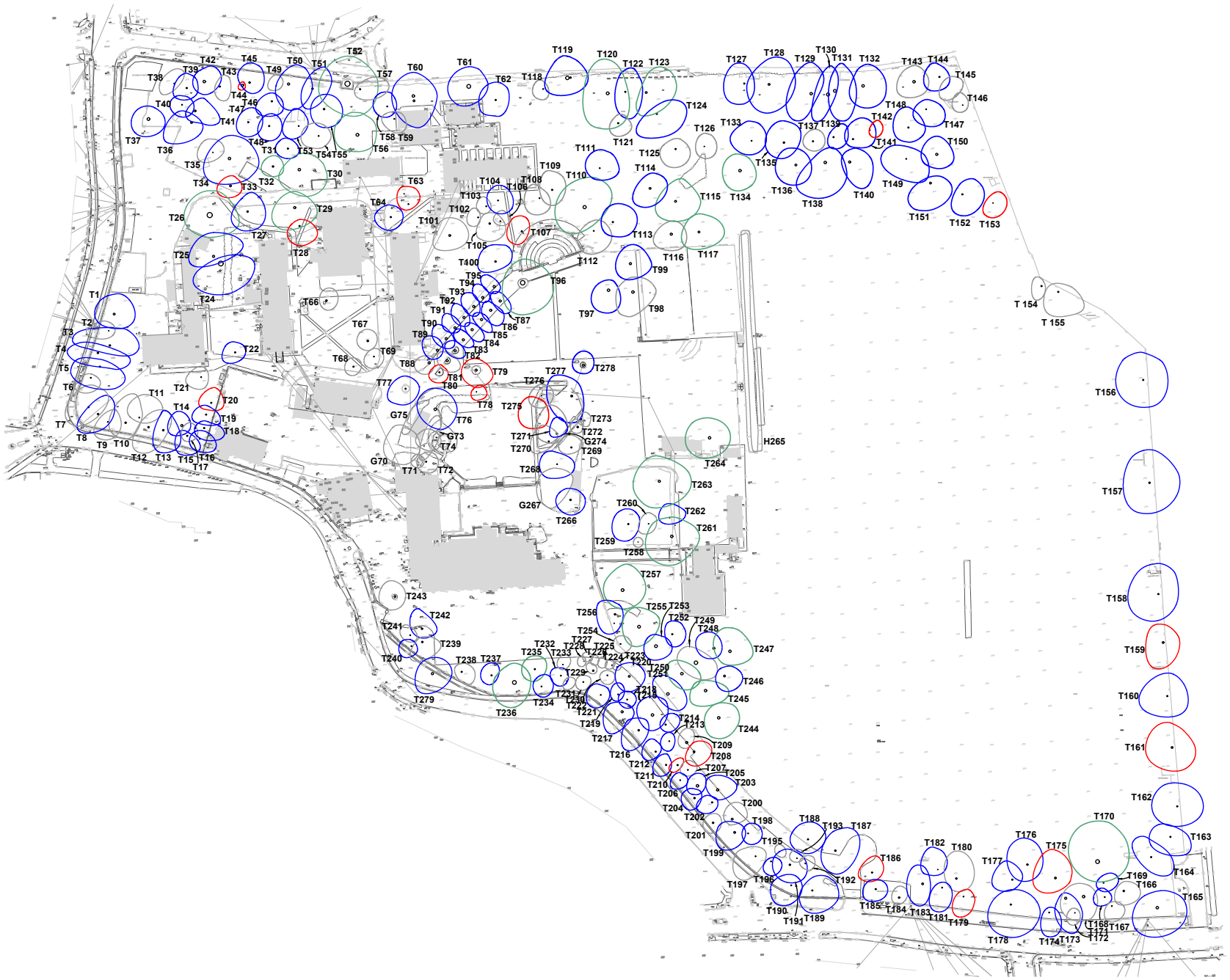
Existing Tree Survey (T001)
Tree Constraints Plan (T002)
Tree Removal & Replacement Plan (T003)
Tree Constraints Plan - Drainage (T004)
Tree Protection Plan (T005)

Prepared in accordance with BS5837:2012

Kneller Hall
Twickenham
TW2 7DU

Colour Key: BS5837: 2012 (see Section 3.6)

NOTE: The appended Tree Constraints Plan, Tree Removal and Replacement Plan, Drainage Plan and Tree Protection Plan trees to be removed to facilitate development are marked with a dash red circle. Category U trees that are also recommended for removal, but their removal is unrelated to the development are denoted by a solid red circle on these plans as shown within the keys



KEY

	CATEGORY A
	CATEGORY B
	CATEGORY C
	CATEGORY U

0 10 20 30 40 50 100m

N

BS5837 (2012) Tree Survey Notes

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5. Off site trees have been plotted based on site visit survey and locations are not based upon topographiccal survey

NOTE: Tree survey locations based on previous undertaken topographical surveys for design issue and additional GIS mapping has not been undertaken for the purposes of this survey

Revisions

Rev.	Date		Checked
/	14.01.2022	ISSUED FOR INFORMATION	MF
/	29.08.2022	ISSUED FOR INFORMATION	MF

JOB TITLE	Kneller Hall, Twickenham, TW2 7DN
CLIENT	Radnor House School Limited
DWG TITLE	Existing Tree Survey Plan
SCALE	1:1500 @ A3
DATE	JAN 2022
JOB NO	AIA/MF/005/22
DWG NO.	T001

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KEY

	CATEGORY A
	CATEGORY B
	CATEGORY C
	CATEGORY U Trees to be Removed Unrelated to Development
	NEWLY PLANTED TREES
	TREES REMOVED
	RPA
	RPA INCURSION
	SHADING ARC
	EXISTING BUILDING OUTLINE
	NEW BUILDING OUTLINE

BS5837 (2012) Tree Survey Notes

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Revisions

Rev.	Date		Checked
/	14.01.2022	ISSUED FOR INFORMATION	MF
/	25.02.2022	ISSUED FOR INFORMATION	MF
/	01.06.2022	ISSUED FOR INFORMATION	MF
/	29.08.2022	ISSUED FOR INFORMATION	MF
/	20.09.2022	ISSUED FOR INFORMATION	MF

JOB TITLE	Kneller Hall, Twickenham, TW2 7DN
CLIENT	Radnor House School Limited
DWG TITLE	Tree Constraints Plan
SCALE	1:1500 @ A3
DATE	JAN 2022
JOB NO	AIA/MF/005/22
DWG NO.	T002

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KEY

	CATEGORY A
	CATEGORY B
	CATEGORY C
	CATEGORY U Trees to be Removed Unrelated to Development
	NEWLY PLANTED TREES
	TREES REMOVED
	RPA
	RPA INCURSION

BS5837 (2012) Tree Survey Notes

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Revisions

Rev.	Date		Checked
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/	01.06.2022	ISSUED FOR INFORMATION	MF
/	29.08.2022	ISSUED FOR INFORMATION	MF
/	20.09.2022	ISSUED FOR INFORMATION	MF

JOB TITLE	Kneller Hall, Twickenham, TW2 7DN
CLIENT	Radnor House School Limited
DWG TITLE	Tree Removal & Replacement
SCALE	1:1500 @ A3
DATE	JAN 2022
JOB NO	AIA/MF/005/22
DWG NO.	T003

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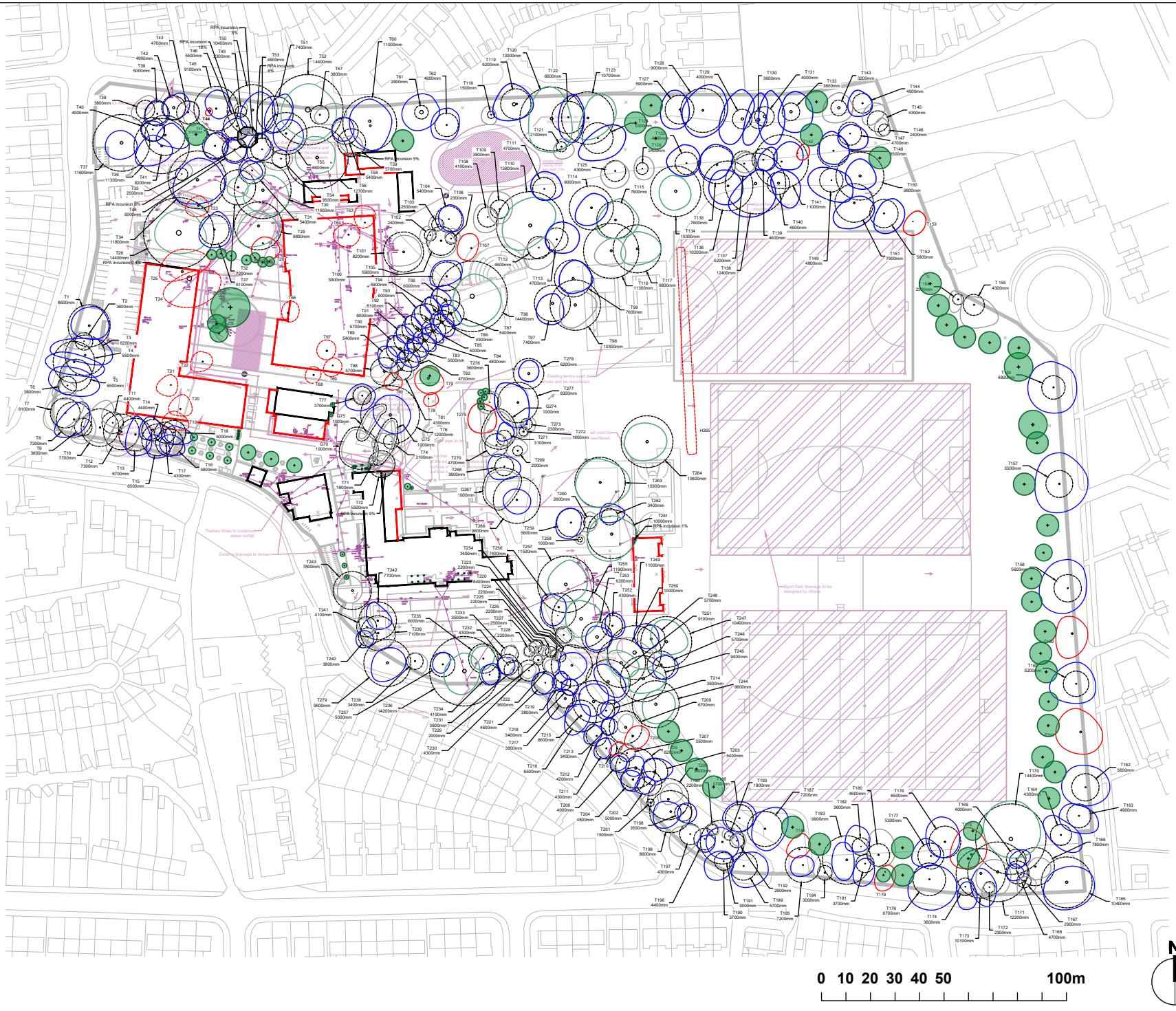

KEY

	CATEGORY A
	CATEGORY B
	CATEGORY C
	CATEGORY U Trees to be Removed Unrelated to Development
	NEWLY PLANTED TREES
	TREES REMOVED
	RPA
	RPA INCURSION
	PROPOSED DRAINAGE

BS5837 (2012) Tree Survey Notes

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Revisions

Rev.	Date		Checked
/	14.01.2022	ISSUED FOR INFORMATION	MF
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/	01.06.2022	ISSUED FOR INFORMATION	MF
/	29.06.2022	ISSUED FOR INFORMATION	MF
/	20.09.2022	ISSUED FOR INFORMATION	MF

JOB TITLE	Kneller Hall, Twickenham, TW2 7DN
CLIENT	Radnor House School Limited
DWG TITLE	Drainage Plan
SCALE	1:1500 @ A3
DATE	JAN 2022
JOB NO	AIA/MF/005/22
DWG NO.	T004

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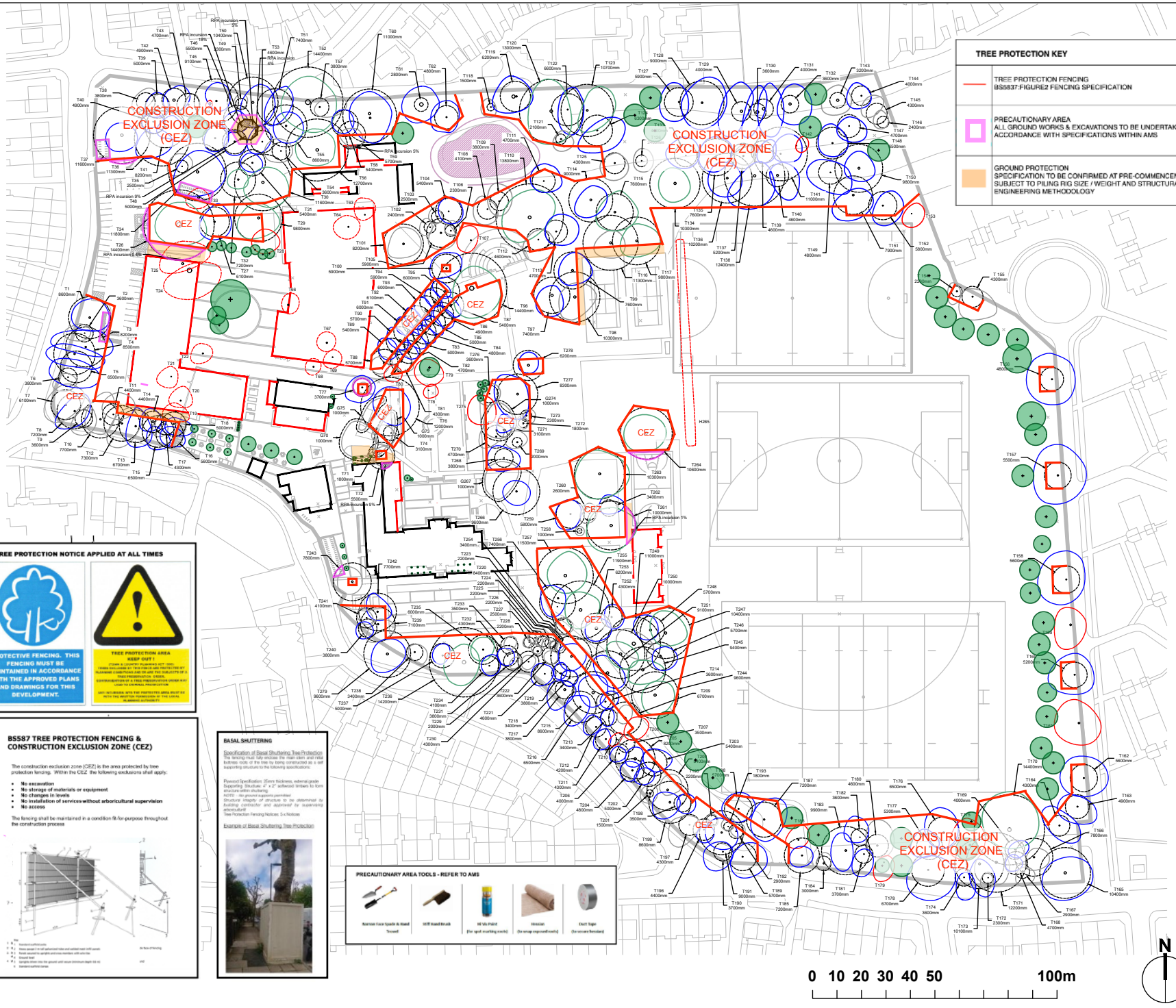

KEY

- CATEGORY A
- CATEGORY B
- CATEGORY C
- CATEGORY U Trees to be Removed Unrelated to Development
- NEWLY PLANTED TREES
- TREES REMOVED
- RPA
- RPA INCURSION
- SHADING ARC
- EXISTING BUILDING OUTLINE
- NEW BUILDING OUTLINE

BS5837 (2012) Tree Survey Notes

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Revisions

Rev.	Date		Checked

JOB TITLE	Kneller Hall, Twickenham, TW2 7DN
CLIENT	Radnor House School Limited
DWG TITLE	Tree Protection Plan (TPP)
SCALE	1:1500 @ A3
DATE	JAN 2022
JOB NO	AIA/MF/005/22
DWG NO.	T005

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Appendix C:
Tree Survey Photographs

Photographs (August 2022 Survey)

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